

Railway Age

AUGUST 5, 1944

Founded in 1856



THE LIBRARY OF
CONGRESS
SERIAL RECORD

AUG 21 1944

COPY.....
GIFT

MT. VERNON CARS

Alert to current trends in freight car construction, Mt. Vernon is amply prepared to cooperate with American railroads in the building of cars designed not only to meet today's urgent demands for equipment, but to meet the post-war demands for operating economy.



MT. VERNON CAR MFG. CO.

Division of H. K. PORTER COMPANY, Inc.

PITTSBURGH 22, PENNSYLVANIA

Factories at: Mt. Vernon, Ill. • Pittsburgh, Pa. • Newark, N.J. • New Brunswick, N.J. • Blairsville, Pa.

PORTER
Equipment
Established 1888

Test No. 2 ONE COMPLETE CHEMICAL ANALYSIS WITH EACH HEAT

The purpose of this test for Chilled Car wheels is to guarantee conformity to standard requirements of chemical composition.

The Chemical Analysis Test

- The AMCCW Code requires that analysis shall be made by manufacturers from test blocks of a specified size.
- Test blocks are to be poured, during the day's melt from each cupola from which wheels purchased to standard specifications are poured.
- The determination of percentage of total carbon, manganese, phosphorus, sulphur and silicon is then made.
- In addition, chemical analysis is made from at least one wheel each day.

THE 7 RIGID TESTS THAT GUARANTEE UNIFORMITY

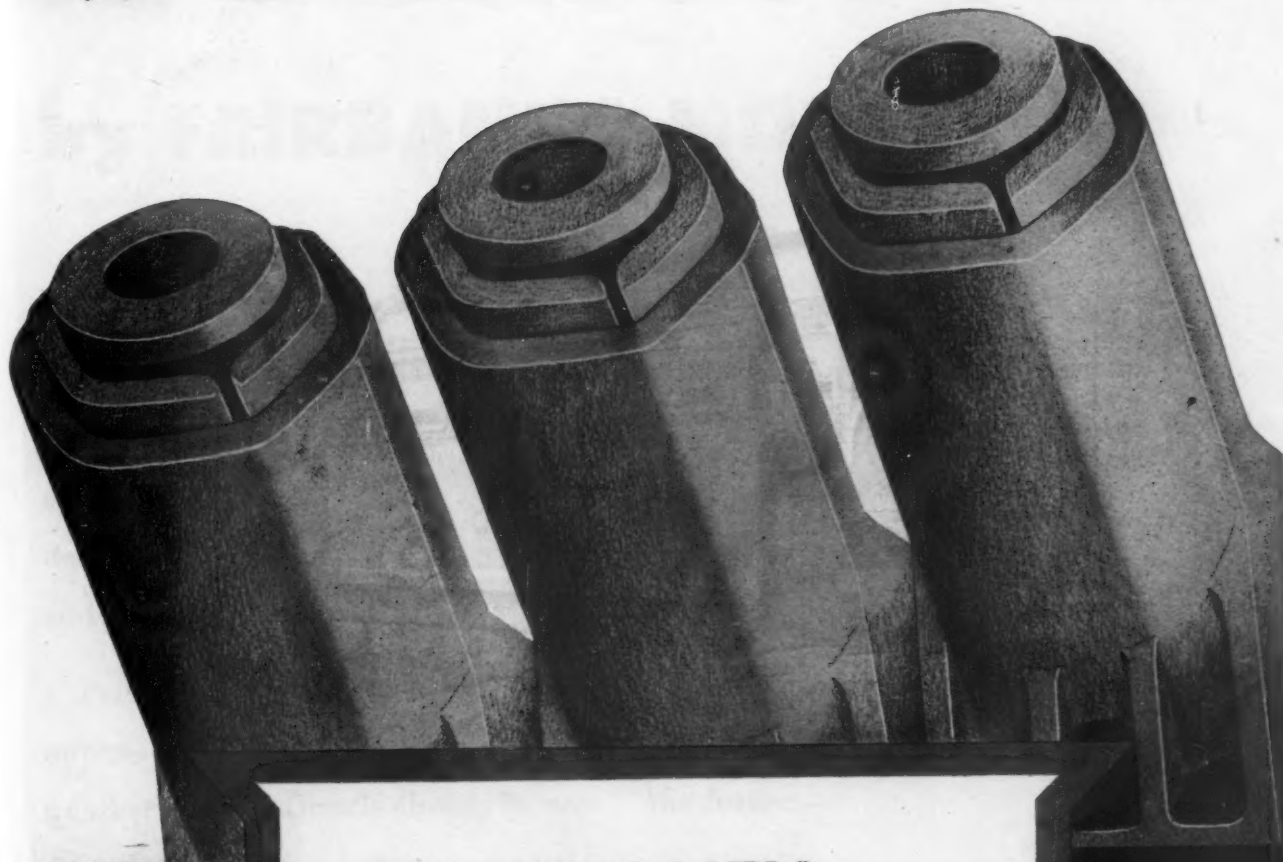
1. Chill test block taken at least once in every ten wheels poured.
2. One complete chemical analysis with each heat
3. Constant pyrometer checks for accurate processing temperature.
4. Drop-test of finished wheel (A.A.R. Specifications).
5. Thermal test of finished wheel (A.A.R. Specifications).
6. Test for rotundity.
7. Brinell Hardness test for maximum and minimum chill limits.



ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS
230 PARK AVENUE, NEW YORK, N. Y. • 445 NORTH SACRAMENTO BOULEVARD, CHICAGO, ILL.
Organized to achieve: Uniform specifications — Uniform inspection — Uniform product

MINER

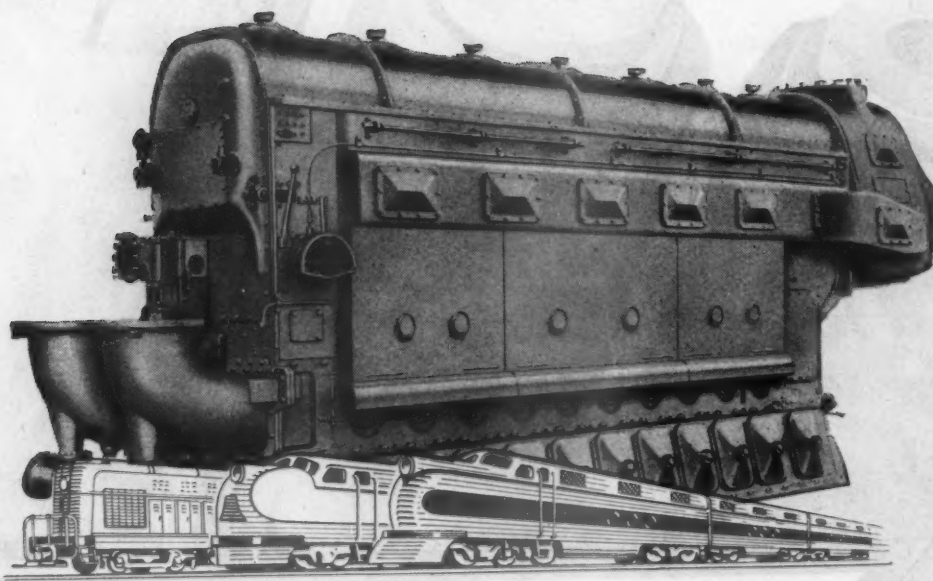
Friction Draft Gears



QUALITY
CAPACITY
ENDURANCE

W. H. MINER, INC. CHICAGO

Diesel



A name worth remembering!



FAIRBANKS-M

LOCOMOTIVES

by FAIRBANKS-MORSE

Fairbanks-Morse builds Diesel locomotives for passenger, freight and switcher service. Individual units in two sizes develop respectively 1000 horsepower and 2000 horsepower.

Prime mover is the Fairbanks-Morse opposed-piston Diesel engine. The number of these Diesels already in use exceeds two million horsepower total.

Generators, motors and electric con-

trols embody many improvements to assure dependable performance in hard, continuous service.

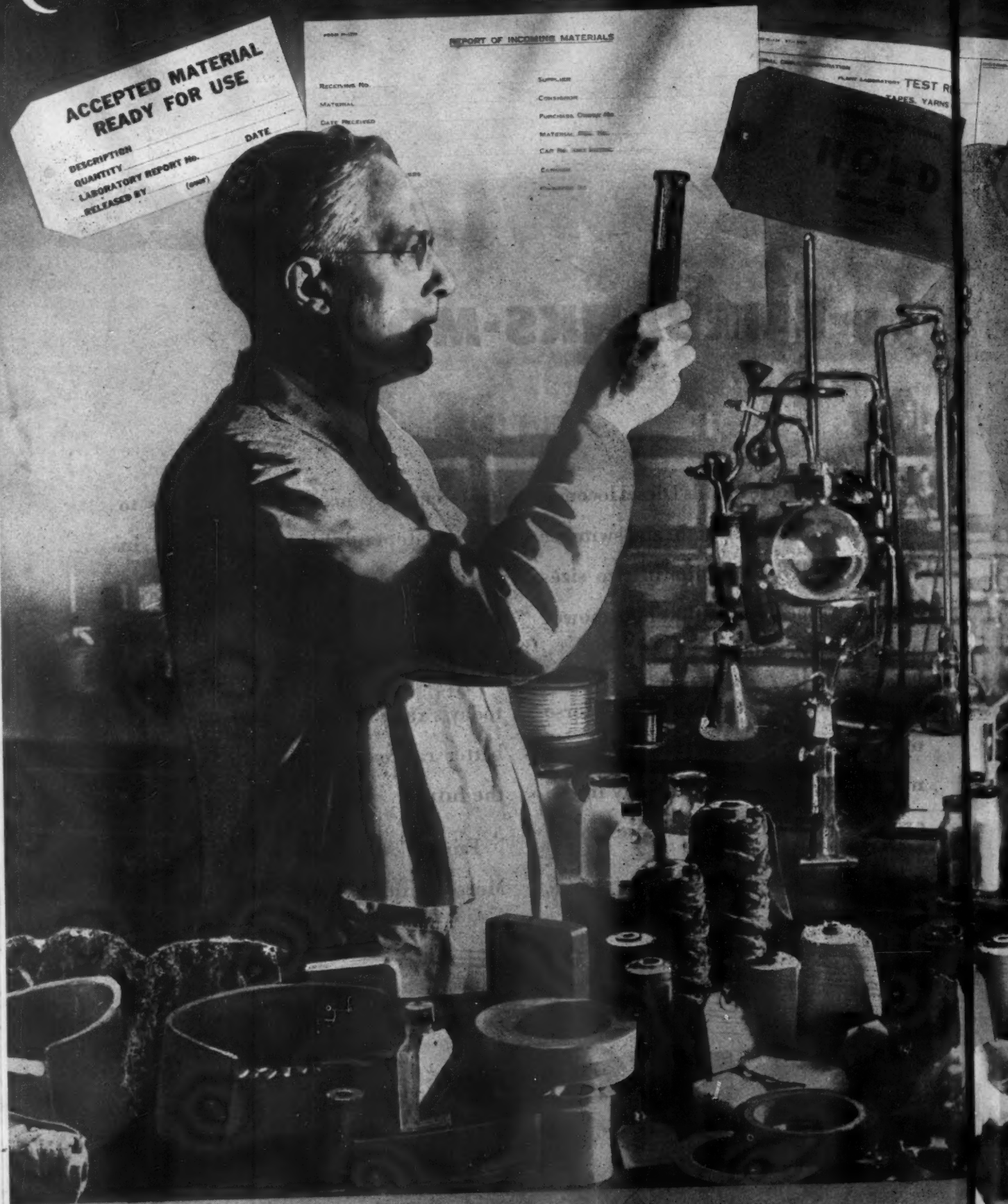
The Fairbanks-Morse Diesel locomotive will stand up under the load of today's railroad crisis, and power the better railroading that is planned for the future.

Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

MORSE



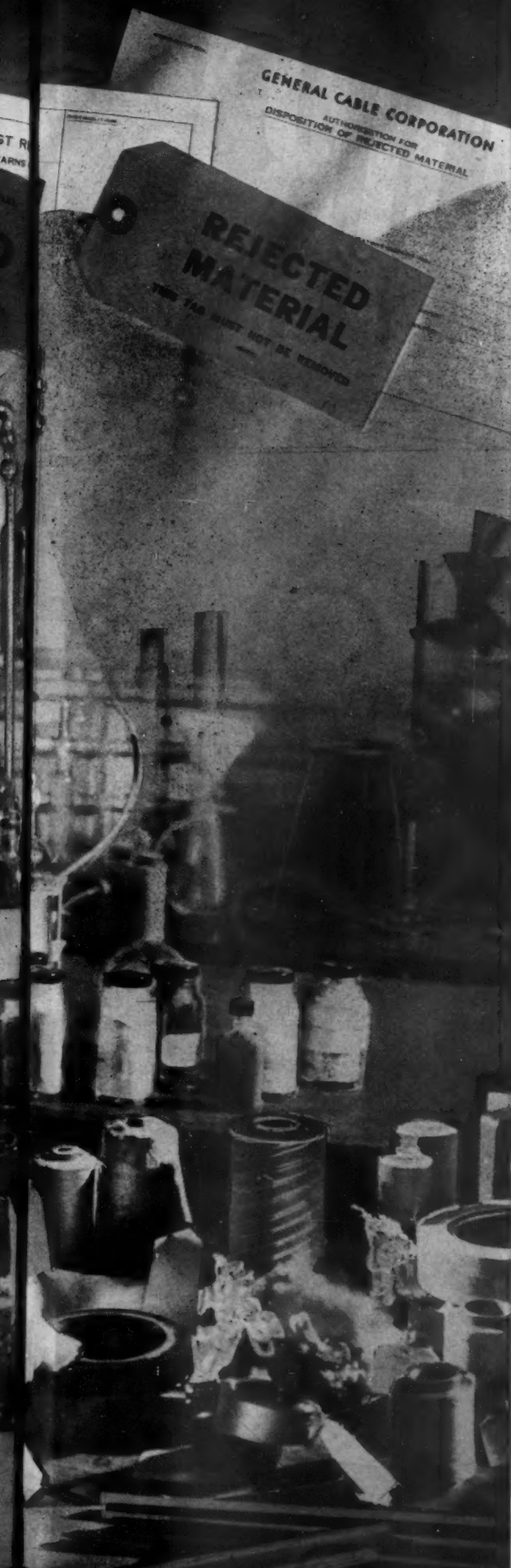
QUALITY CONTROL BY GENERAL



Literally hundreds of materials—among them metals, fabrics, lacquers, asphalts, synthetic polymers—are used in making modern wire and cable. The chemical, physical, metallurgical tests of all incoming raw materials for each plant are “double-checked” in the Control Testing

Laboratory located at that plant. All 9 of these laboratories operate, however, under direct and close supervision of the General Cable Research Laboratory—the largest, it has been said, “in the world” devoted exclusively to wire and cable research.

CABLE'S OWN "BUREAU OF STANDARDS"



Assurance of standardized quality in the electrical wire and cable products supplied by General Cable starts with our firm control of raw materials. To insure absolute uniformity at all 9 manufacturing plants, each material used is accepted or rejected by the "Control Testing Laboratories" situated in each plant, to specifications established by the General Research Laboratory at Bayonne. The time of an entire Bureau of the General Research Laboratory is devoted to the setting of these standards and the devising and supervising of uniform tests to enforce them. Under such a program one does not have to hope for or demand quality control — one gets it.

GENERAL CABLE CORPORATION



*Manufacturers of Bare and Insulated Wires and Cables
for Every Electrical Purpose*

THE FUTURE



Belongs to those
PLAN *for it!*

- Lighter weight freight cars! Speed! Safety! Reduced maintenance costs! . . . These are the objectives of postwar railroad operations.

The new Monroe Hydraulic Shock Absorbers and Sway Bars make high speed and lighter weight equipment engineeringly safe and sound. They do more . . . they protect lading and equipment by controlling vertical, lateral and swaying action.

Plan today for tomorrow's faster tempo in railroad operation. Our engineers will work and plan with you in the application of Monroe Controls to your equipment.

*The future belongs to
those who plan for it!*

RAILWAY SUPPLY DIVISION

MONROE

MONROE AUTO EQUIPMENT CO. . . MONROE, MICH.





60 foot washboard for butadiene gas

Shown here is a stripper-scrubber, a busy piece of refinery equipment that strips off butadiene gases and then scrubs out impurities—a vital operation in the manufacture of synthetic rubber.

This particular vessel is the largest one of its kind ever built. Although it towers some 60 feet, its steel shell is but one-half an inch thick—a meticulous fabrication job and one logically assigned to the craftsmen of Consolidated Steel Corporation.

Precision work quickly accomplished—today it is continuing to win for the men and women of Consolidated Steel every basic government industrial award, tomorrow it will be devoted to the construction needs of a peacetime America. Inquiries looking to future construction are solicited. Address the president.

Consolidated Steel



FABRICATORS
ENGINEERS
CRAFTSMEN

LARGEST INDEPENDENT IN THE WEST

CONSOLIDATED STEEL CORP., LTD., LOS ANGELES
LONG BEACH, WILMINGTON, CALIF.; ORANGE, TEX.



rescue:

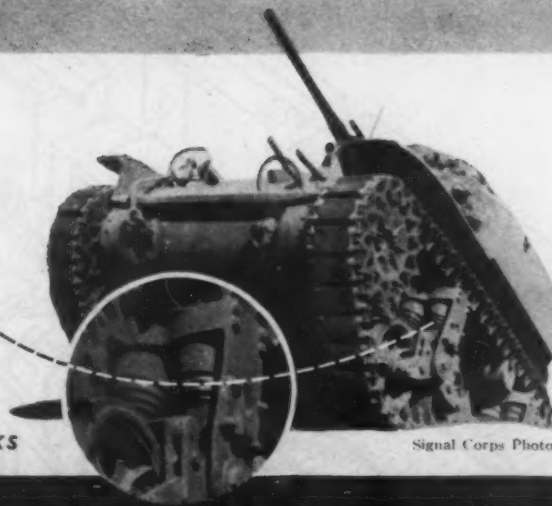
for severely pounded* Spring Groups!

Style A-6-A HOLLAND VOLUTE Snubber Springs

Release ONE A. A. R. Coil Truck Spring Out of EACH Nest!

*Of the enormous increase in American transportation since the World War began, the Railroads have handled Eighty Per Cent! This means that A.A.R. Coil Truck Springs are subjected to tremendously greater punishment than ever before.

Uncle Sam Uses Volute Springs on Many Tanks



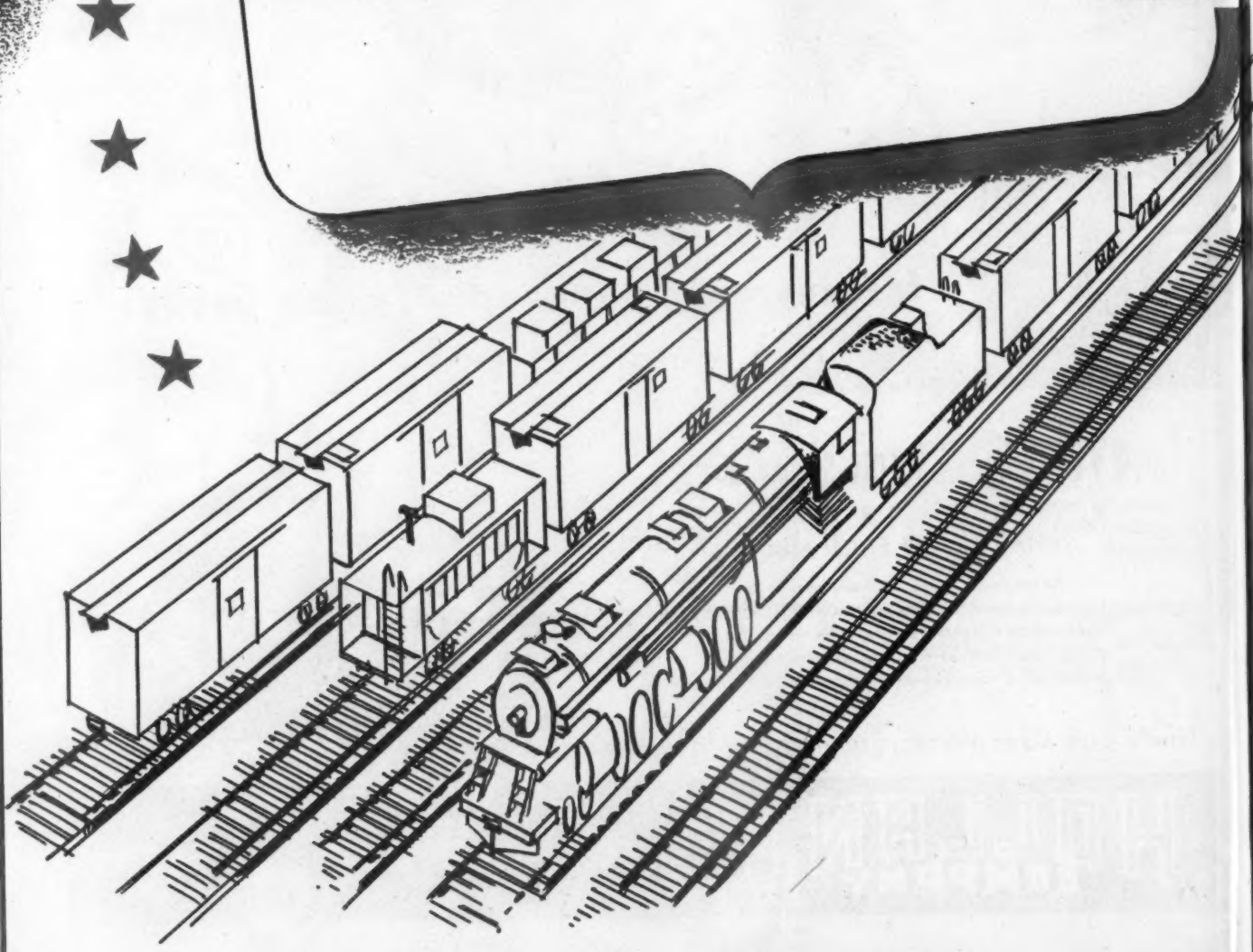
Signal Corps Photo

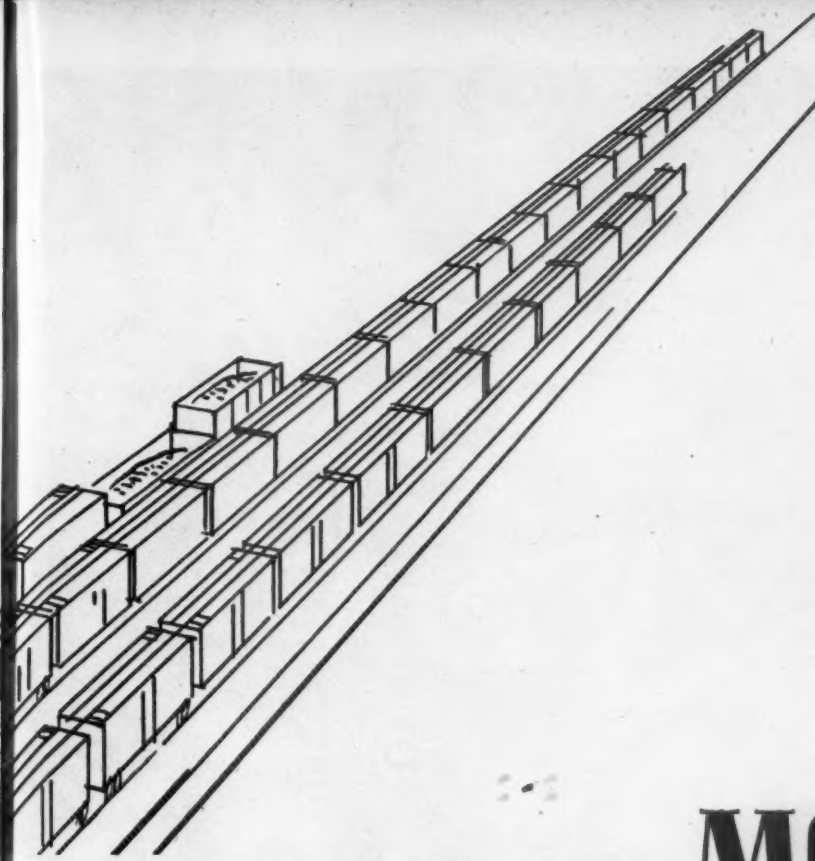
HOLLAND
COMPANY

332 SO. MICHIGAN AVE., CHICAGO



Refrigerator Cars Move a Lot of Things and





one of them's **MORALE!**

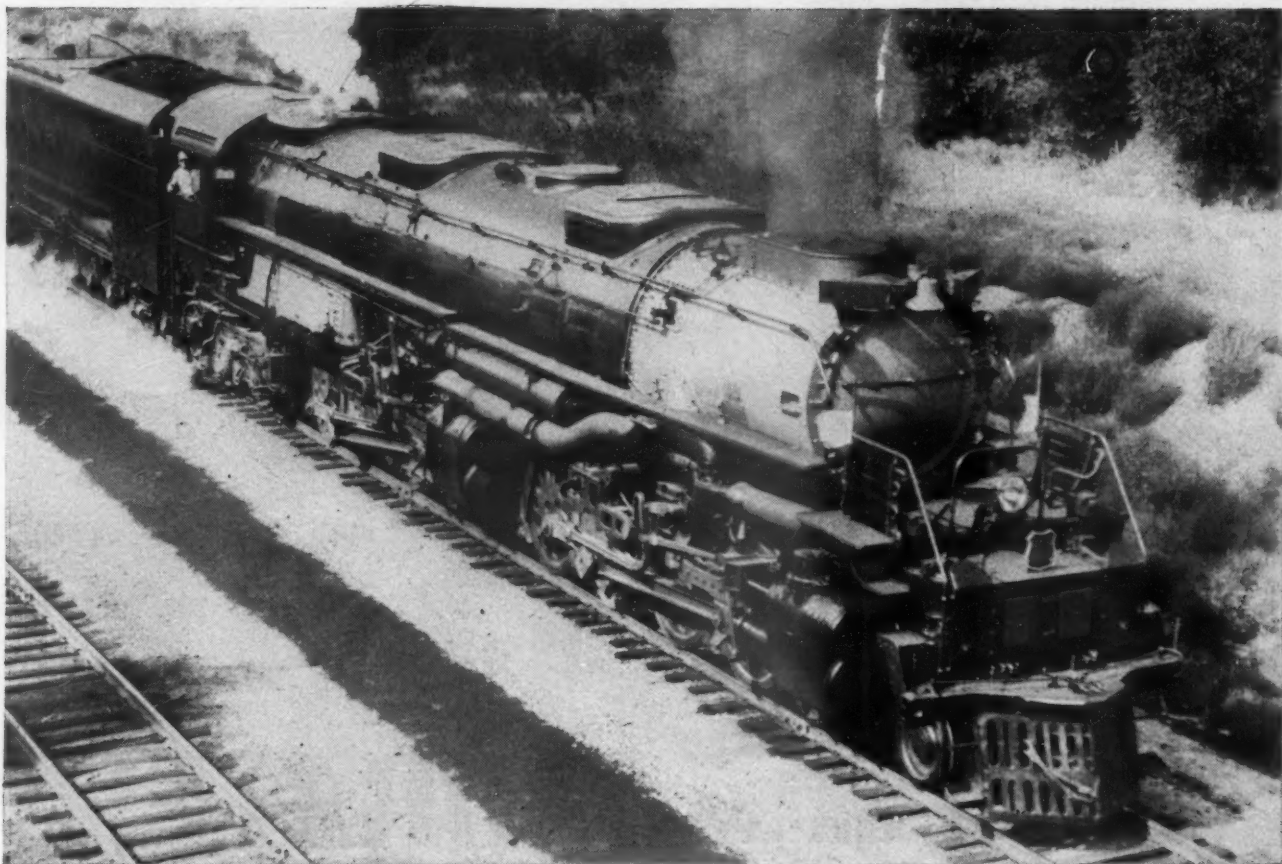
The home front can't keep its chin up and its mind on the job if the food it consumes comes spoiled, soiled, sour or soggy. Fish and fruit . . . "spuds" and shortenings . . . eggs, butter, beef — yes, and draught beer, too, ride the rails in perfect preservation to America's tables — thanks to the refrigerator car.

Huge as the rail refrigeration volume was before Pearl Harbor, it is completely dwarfed today. Yet competing for trackage with a vastly expanded general freight movement, a tremendous upsurge in passenger traffic and the number one job of transporting the military and its supplies — these refrigerator cars get through. Indeed, in the entire war effort, very few agencies have earned more glory than the railroads — none have sought it less.

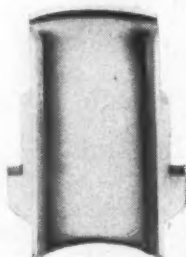
A.C.F. as a builder of refrigerator cars for many years, has made material contributions toward their present efficiency. And in the competitive shipping conditions of the days to come, A.C.F.'s experience in this field is certain to prove of substantial aid to railroads and shippers in meeting new demands as they arise.

A.C.F. AMERICAN CAR AND FOUNDRY COMPANY

NEW YORK • CHICAGO • ST. LOUIS • CLEVELAND • WASHINGTON
PHILADELPHIA • PITTSBURGH • ST. PAUL • SAN FRANCISCO

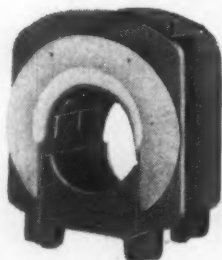


Modern!



● Magnus A.A.R. Journal Bearing, Freight and Passenger Type

The world-breaking transportation records made by American railroads in the last few years, are conclusive proof that A.A.R. locomotive and car design and practice are modern.



● Satco-faced Locomotive Driving Box

That Magnus bearings and Satco Metal linings and facings amply satisfy the requirements of this modern practice, is proven by their increasing use and the new mileage records they are making.

MAGNUS METAL CORPORATION
CHICAGO NEW YORK





It was in miniature, of course, this "farm" of aluminum storage tanks. But corrosive conditions could be controlled to simulate those encountered with the worst of crudes. No waiting years for results. Alcoa Research produced them in a hurry.

Hydrogen sulphide, sodium chloride, brine and iron sulphide, all found too frequently where crude is handled, were invited to attack the aluminum test tanks. Where damage was caused, methods of protection were worked out. Thus, the Petroleum Industry was aided in licking a serious problem.

Before the war, several processors and railroads had found that aluminum tank cars

answered their transportation problems; for crude oil and petroleum products, for chemicals and many compounds. Tanks have long life, so upkeep is low. Aluminum protects lading against contamination. Weight saved with aluminum tanks means less dead weight to be hauled around by the railroads.

Alcoa Research is aiding the war effort by tests like these, determining where and how aluminum alloy equipment can be used to best advantage. While winning the war comes first, aluminum is now being used for other-than-war purposes as the manpower situation permits. Our representative will be glad to discuss the availability of aluminum with you. ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA  **ALUMINUM**



TWO DECADES OF PROGRESS

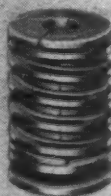
With approximately two-thirds as many locomotives and three-fourths as many freight cars, railroads hauled 57.6% more freight in 1943 than in 1920, the year when railways produced the greatest revenue net ton mileage previous to 1941.



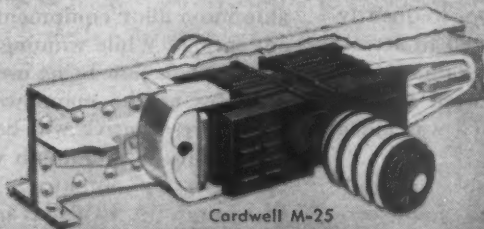
Meantime, freight car repair costs have decreased more than 10% per ton mile—definite proof of the adequacy of the A. A. R. requirements program and of the improved devices supplied by railway equipment companies.

Over 98% of the cars in freight carrying service are A.A.R. construction, and over 96% have Friction Draft Gears.

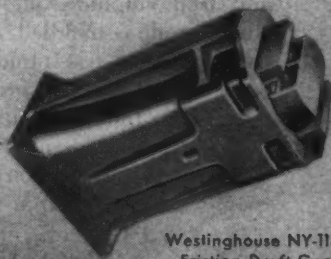
Cardwell Westinghouse Draft Gears and Friction Bolster Springs meet the greater shock-protection requirements of today's heavier traffic.



Cardwell Friction
Bolster Spring
Type A



Cardwell M-25
Friction Draft Gear
Certified A. A. R.



Westinghouse NY-11-F
Friction Draft Gear
Certified A. A. R.

**CARDWELL WESTINGHOUSE CO., CHICAGO
CANADIAN CARDWELL CO., LTD., MONTREAL**



NOTHING BABIES YOUR PASSENGERS...



... LIKE **Foamex*** SEAT CUSHIONING

Seating people comfortably is *your* business. .
Making seats more comfortable is *our* business.

And *Foamex* babies your passengers like *no-body's* business.

They don't merely sit on this wonderful latex foam. They *float* on millions of air-breathing cells that cradle the body to blissful relaxation.

Every one of those cells is a little air-valve shock absorber. Every one says "You shall not pass" to vibration. They're so completely resilient, *Foamex* shapes itself to you for better support, but can't ever push you tiresomely out of shape. And all those air-cells breathe. They keep *Foamex* (and passengers) fresh and cool.

*TRADE MARK

Foamex makes better sense to maintenance men too. It replaces springs and padding with one molded, sag-proof unit. *Foamex* has been cutting seating upkeep for years, now, on highway, railway and airway.

Sorry, you can't have *Foamex* for civilian use right away. It's strictly military. But you can put *Foamex* into postwar comfort plans. Remember—it's more restful—it's more efficient—it's made by Firestone.

P. S. Watch for *Velon**, Firestone's new upholstery fabric. Makes smarter colors practical.



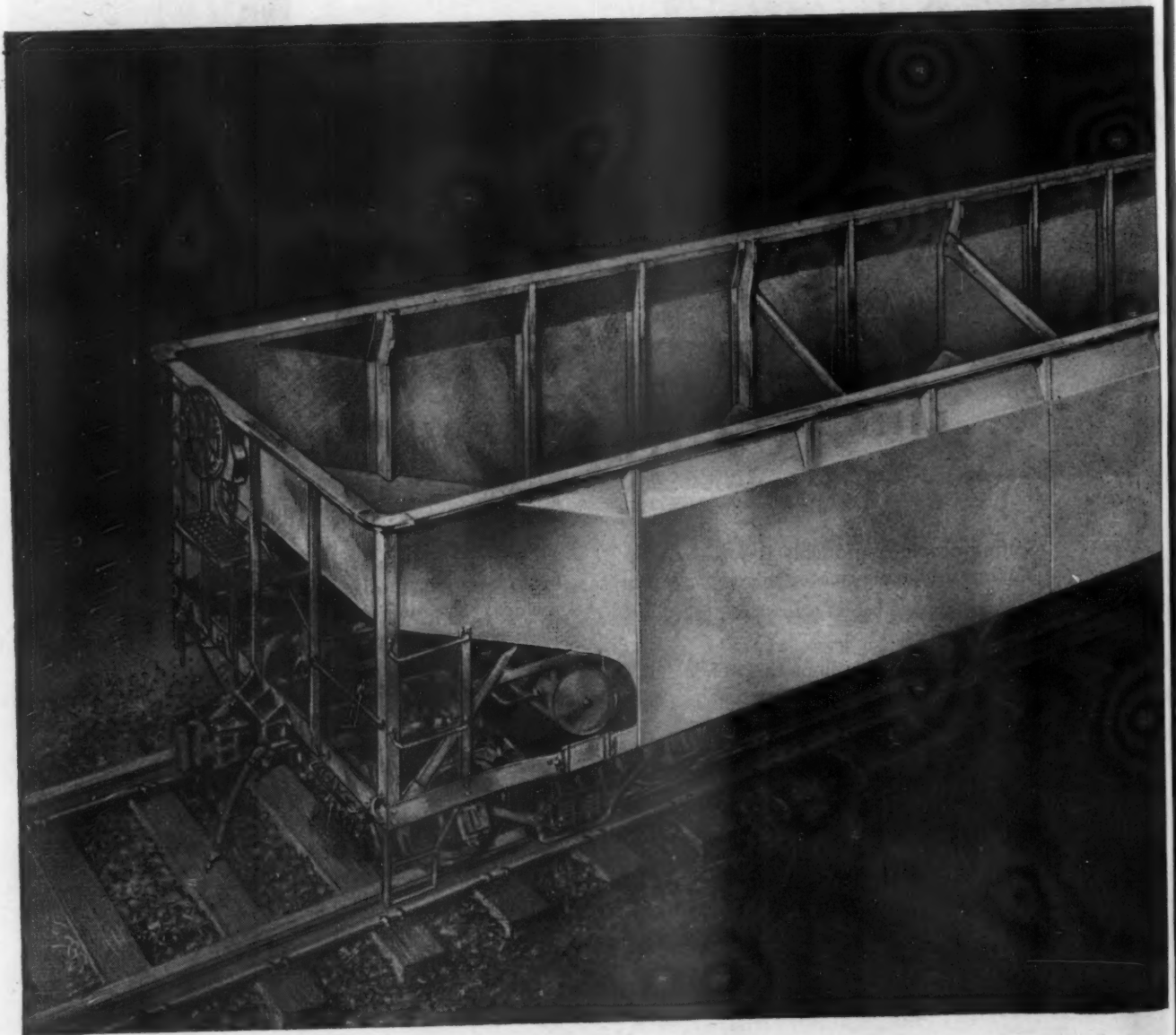
For the best in music, listen to the Voice of Firestone every Monday evening over the entire NBC coast-to-coast network.

ANOTHER CONTRIBUTION TO A BETTER WAY OF LIFE by

Firestone

REYNOLDS ALUMINUM

... can help you haul
more freight per train



LIGHTWEIGHT CARS, built with the new Reynolds Aluminum alloys, hold a key to higher payload capacities. Present calculations indicate that the use of these new alloys can eliminate at least several hundred tons of non-paying weight from the average freight train. Naturally this will be replaced by a revenue-producing load.

One of the new Reynolds developments in the field of light-weight railway car design is an aluminum hopper-bottom car, shown in the illustration below. In this application several of the outstanding qualities of the new Reynolds aluminum alloys are brought into sharp focus.

High corrosion resistance is one important feature . . . only slightly under that of 99.5% aluminum. The alloy that makes this possible has a hard, tough surface—well able to resist *all* of

the elements of wear encountered by this type of car.

The experienced railroad men of the Reynolds Railway Division believe that aluminum has far greater utility than its present use for “streamliners” and locomotive parts. Aluminum’s inherent lightness and corrosion resistance, to which modern alloying technique has added great strength, makes it the logical metal for *all* car superstructures.

* * *

Reynolds has many facts of vital interest to operating and mechanical executives of railroads. Inquiries are invited regarding Reynolds alloys and blueprints are available on the new car designs which Reynolds Engineers have developed. Reynolds Metals Co., Railway Supply Division, 310 South Michigan Blvd., Chicago 4, Illinois.

Never before has railroad equipment been called upon to stand the punishment inflicted



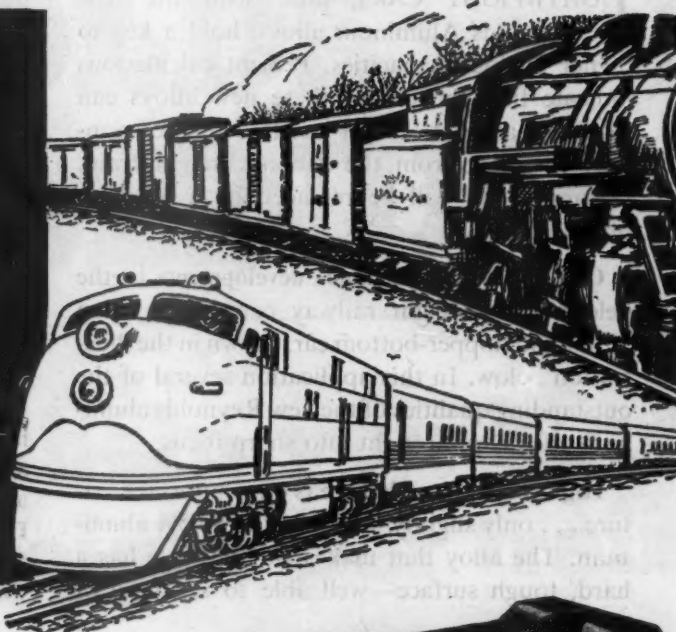
Modern power press, a structural segment in one of Reynolds’ completely equipped plants. Reynolds facilities cover every step in the production of aluminum from mining ore to fabricated finished parts of any type or size.

Aluminum body hopper car, designed by Reynolds engineers, approved by the A.A.R. Light Weight 31,430 . . . Capacity 68.8 tons at 52¢ per cubic foot . . . Nominal Truck Capacity 50 tons. Like other Reynolds-designed cars, it carries a greater payload than the conventional steel car, has a lower center of gravity. New high-strength aluminum alloys, developed by Reynolds metallurgists, make these improved designs practical for all types of rolling stock.

Approved by A.A.R.



FREIGHT OR *Passenger* *They must be kept in service*



Never before has railroad equipment been called upon to stand the punishment inflicted by the demands of the present war emergency.

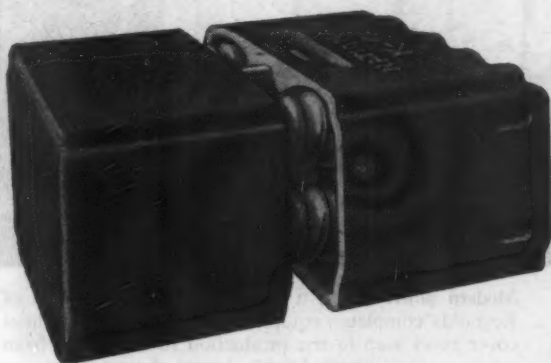
Longer, heavier trains, greater speed and continuous service made imperative by the limited number of cars available, put an excessive strain on cars and equipment.

National Draft Gears lighten the burden, by absorbing the blows incident to train make-up and operation.

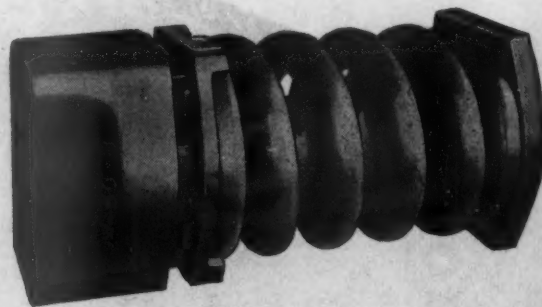
There is a "National" gear to suit every requirement.



NATIONAL M-17-A DRAFT GEAR
22 $\frac{3}{8}$ " long
A.A.R. Approved



NATIONAL K-4 DRAFT GEAR
Designed especially to meet the requirements of high speed passenger service.



NATIONAL M-50-B DRAFT GEAR
20 $\frac{1}{8}$ " long
A.A.R. Approved

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Offices: CLEVELAND, OHIO

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco.
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

BUCKETS FOR EVERY PURPOSE

A LOCOMOTIVE'S DESIGN, weight and power are determined by the type of service planned for it. Clamshell Buckets warrant equal consideration, if efficient performance is essential.

For railroad work Blaw-Knox Buckets are favored because the line is complete—each designed for a specific service... for coal handling and ballast cleaning, for sand, ashes, coal, etc.

With information as to material to be handled, hook capacity, head-room and clearances, Blaw-Knox can supply a bucket that will give you maximum performance, long life, cable economy.

Ask for complete information about Blaw-Knox Buckets for Railroad service.

BLAW-KNOX DIVISION of Blaw-Knox Company

2061 Farmers Bank Building, Pittsburgh, Pa.

New York Chicago Philadelphia Birmingham Washington

Representatives in Principal Cities

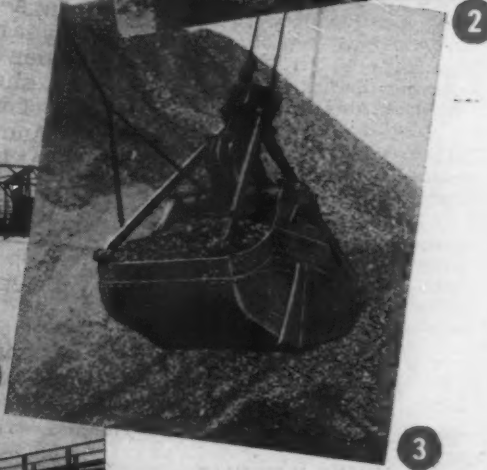
- 1 Blaw-Knox 1½ Cu. Yd. 2-line lever arm bucket with 24 in. equalizer bar. Perforated Scoops for Railroad Ash Pit Service.
- 2 Close-up view of Ash Pit Bucket described above.
- 3 Blaw-Knox Light Weight Alloy Steel Bucket, for fast rehandling of coal.



1



2



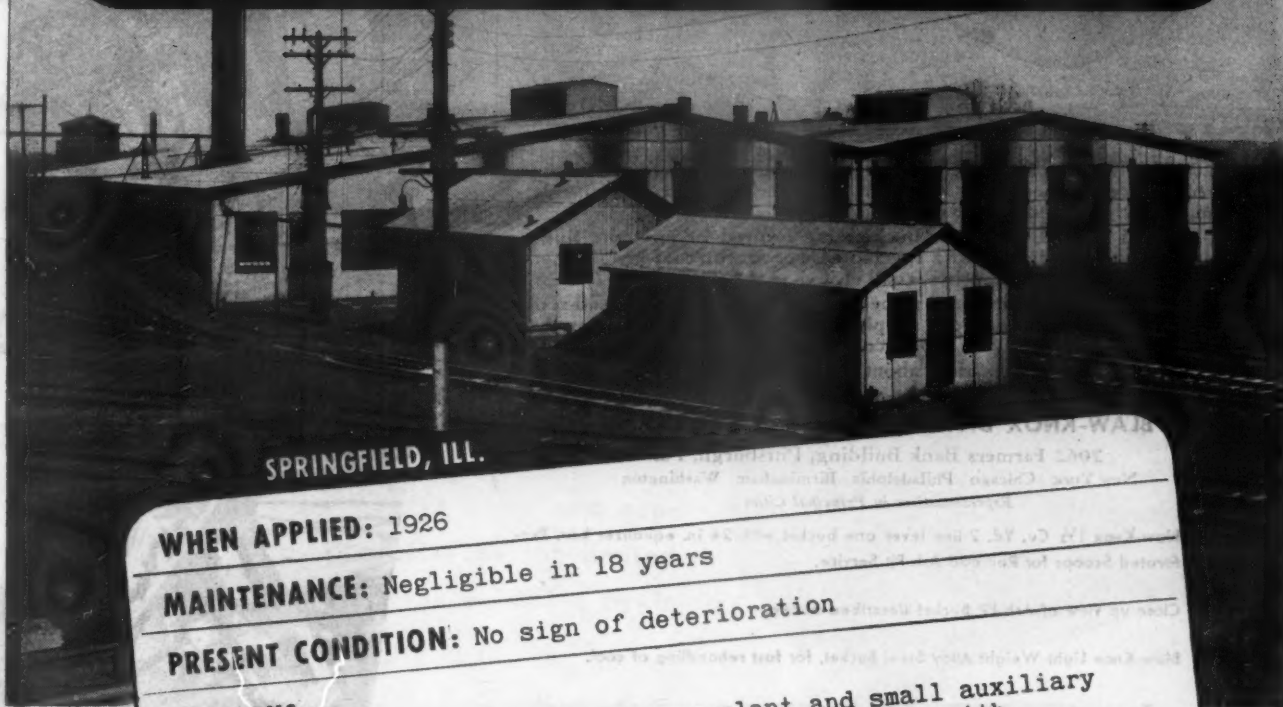
3



Photo at left shows an 8-ton Blaw-Knox Alloy Steel Bucket in service at the River-Rail transfer plant of the P. & L. E. R. R., Colons, Pa. A special feature of this design is its unusually large sheaves which help to speed unloading time from 24 to 16 hrs.

BLAW-KNOX *Clamshell* BUCKETS

Another PERFORMANCE REPORT ON J-M CORRUGATED TRANSITE



SPRINGFIELD, ILL.

WHEN APPLIED: 1926

MAINTENANCE: Negligible in 18 years

PRESENT CONDITION: No sign of deterioration

REMARKS:

The entire engine house, power plant and small auxiliary buildings in this railroad yard were sheathed with Johns-Manville Corrugated Asbestos Transite. They have remained in A-1 condition and will continue to do so for many more years because this J-M Siding and Roofing is made of asbestos and cement, compressed into a dense monolithic sheet and corrugated for extra strength. Corrugated Transite is fireproof, cannot rust, rot or corrode. And, it never needs painting or any other kind of preservative treatment.

For more details about J-M CORRUGATED Asbestos TRANSITE, write Johns-Manville at New York, Chicago, Cleveland, St. Louis, or San Francisco.

JOHNS-MANVILLE

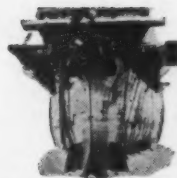


JOHNS-MANVILLE

86 YEARS OF SERVICE TO TRANSPORTATION

Insulations • Packings • Friction Materials • Refractory Cements • Building Materials

PROOF OF
PERFORMANCE...



Many Millions of Sq. Ft. Used in Ships

One Pearl Harbor was enough to demonstrate that combustible insulation did not belong in fighting ships. Quickly a new fire-safe insulation had to be provided for the world's mightiest fleet now carrying the ceaseless battle around the globe. High thermal efficiency to protect against the frigid cold of the arctic and the torrid heat of the tropics was an equally important factor.

Fiberglas* was the insulating material selected because it excelled in meeting these and other "must" requirements. As of today, *many millions of Sq. Ft. of Fiberglas** have been produced to insulate crews' quarters, food storage spaces, and over 50 other locations aboard ships.

This is proof of performance which alert railroad organizations are planning to capitalize in the postwar battle for traffic and revenue.



GUSTIN-BACON MANUFACTURING COMPANY

KANSAS CITY 7, MISSOURI

New York • Philadelphia • San Francisco
Chicago • Tulsa • Houston • Ft. Worth

FIBERGLAS* Offers ALL 7 of These Advantages!

LIGHT WEIGHT—combined with high acoustical and thermal insulating efficiency at low densities.

FIRE SAFETY—Fiberglas does not have to be "flame-proofed" or made "fire-resistant"—being pure mineral it is incombustible—it cannot burn.

INORGANIC—Fiberglas is "clinically clean"—will not rot, support fungus growth or feed vermin. Non-hygroscopic—the fibers cannot absorb moisture.

DURABLE—Fiberglas is per-

manent—will not decay—will not settle, sag or pack under vibration.

UNIFORM—Materials, densities and dimensions are precision-controlled at the factory.

EASILY HANDLED—Furnished in convenient sizes and forms—easily installed by standard methods of application.

ECONOMICAL—high efficiency, light weight, permanence and ease of installation all combine for real savings in building, operation and maintenance of equipment.

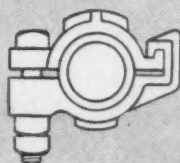
*Trademark Reg. U. S. Pat. Office by Owens-Corning Fiberglas Corp.



RAILWAY INSULATIONS made of FIBERGLAS*



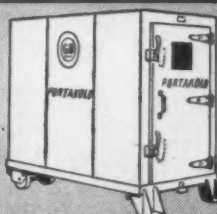
G-B EMERGENCY
BRAKE PIPE REPAIR
COUPLINGS



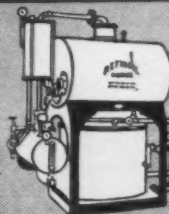
G-B BRAKE
PIPE CLAMPS



G-B
LOCK-TITE
PINS



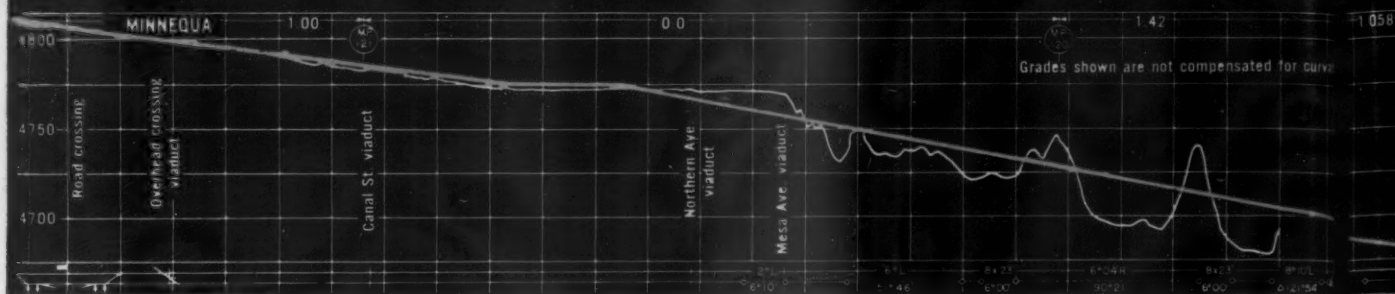
G-B PORTAKOLDS



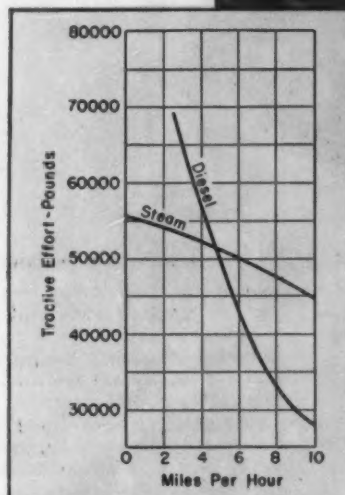
G-B REFINOIL
MACHINES



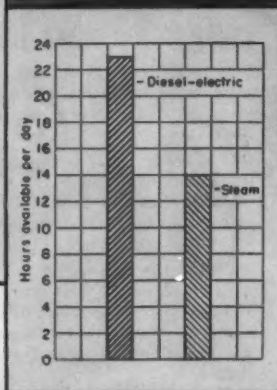
1300 TONS UP 1½ MILES



When compensated for curvature, the 1.42 per cent ruling grade shown in the above profile becomes 1.74 per cent.



35% MORE TRACTIVE EFFORT is produced by diesel-electrics than by comparable-weight steam locomotives at the low speeds used in switching.



40% LONGER WORKING DAYS can be expected from diesel-electrics because, unlike steamers, they require little servicing and no waiting until sufficient steam pressure is built up.

20 MINUTES FOR REFUELING and inspection is all that's required by the diesel-electrics. On the Rio Grande, it's done in the yards during the crews' lunch periods.



AMERICAN LOCOMOTIVE



OF 1.7 PER-CENT GRADE

—without a helper!

"We're definitely convinced by the way these Alco-G.E. units are handling our toughest assignments that two of them will replace three steamers."

*E.B. Herdman, Division Superintendent
Denver & Rio Grande Western*

**Increased tractive effort—fewer locomotives!
Alco-G.E. diesel-electrics, on this heavy-haulage job,
work 22.8 hours a day and handle 15 per-cent more
cars per hour than released steam locomotives.**

THE 24-hour production schedules of a steel plant near Pueblo, Colorado, couldn't be maintained if it weren't for the on-time deliveries of coal, ore, and scrap iron which 1000-hp Alco-G.E. diesel-electric locomotives are making.

The profile to the plant is tough. One and one-half miles of it is a 1.7 per-cent grade which previously required two steamers for each 1300-ton train that must be hauled. Now one diesel-electric, although loaded beyond its rated capacity, handles these trains. This job and their switching work in the Pueblo yards keep the diesel-electrics busy 22.8 hours a day, handling 15 per-cent more cars than the released steamers.

The total operating and maintenance cost per locomotive-hour for the Rio Grande's 14 Alco-G.E. diesel-electrics averages 22 per-cent less than that of its steamers. As a result, each diesel-electric produces an annual saving of more than \$15,000.

Alco-G.E. diesel-electrics are helping the Rio Grande prepare for peacetime competition. Whether *your* plans to be competitive call for diesel-electric, electric, or steam, we can supply the type of motive power that is economically best suited to your particular needs.



113-06-0600

and GENERAL ELECTRIC

**BUY
WAR
BONDS**



FULL THROTTLE TOWARD THE *FINAL BLOW*

Echoing the roar of guns and throb of tanks on distant battlefields, the hurrying song of giant driver wheels rings without letup along the steel paths of America's railroads.

• The railroads are putting all their steam into a single purpose — that of making sure that American fighting men get the things they need to hasten war's end. • The products of farm and factory must flow surely, steadily and swiftly to the far-flung battle fronts. There must be plenty — ahead of time. • It is here the railroads serve. For about nine-tenths of everything the armed services require is carried by the rails. • Day after day, night after night, every railroad man is striving, every available wheel is turning, toward this goal — that there shall be no let-down in getting under way all the goods which victory needs.



**ASSOCIATION OF
AMERICAN RAILROADS**
ALL UNITED FOR VICTORY

OLIVER *WATER TIGHT* BOLTS

PROVED BETTER BY PERFORMANCE

NEEDS NO COUNTER BORING

PREVENTS BOARD SPLITTING

CLEAN SHARP THREADS

SELF SEALING

ALWAYS UNIFORM

PATENTED

A Dependable **TIME SAVER**
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Designed to meet car builders' requirements for an improved wood fastener that speeds construction and provides maximum safety, Oliver *Water Tight* Bolts have received wide acceptance. Car builders and repair crews find this bolt assembles faster, stops end-splitting, requires no counter boring, prevents seepage around bolt holes, reduces rotting, provides safe, flush-head construction. The sharp flutes cut their way into the wood and grip firmly. The head won't become thin and sharp because the edges are thickest where wear is greatest. Oliver *Water Tight* Bolts can help you save time, money, manpower and provide added safety to cargo and workers.



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... AND THE ROAD AHEAD CALLS


These 32 Billion


NEW PRODUCTS, CONSTANT RESEARCH FOR *Correct Lubrication* OF AMERICAN RAILROADS!


 **New Diesel Lubricants and Fuels:** Socony-Vacuum pioneered Diesel lubrication and has kept ahead of Diesel development with new Gargoyle Lubricants to meet today's severe service.

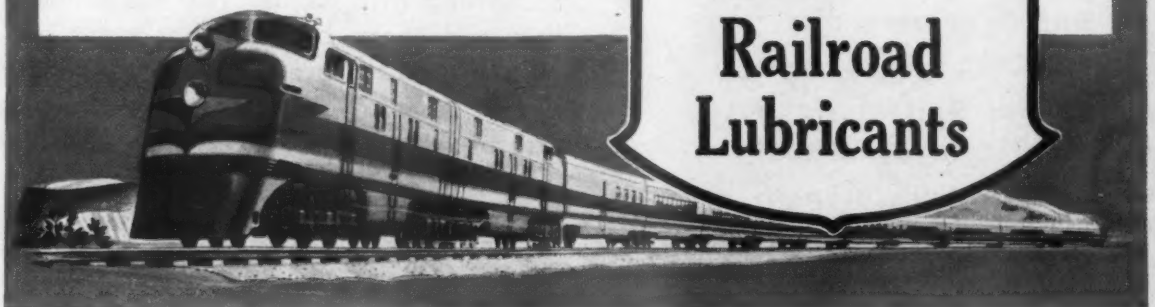
 **Gargoyle Line for Steam Locomotives:** Socony-Vacuum's complete line of Gargoyle Lubricants includes the correct oil or grease for every moving part in every type of steam locomotive.

 **For Trucks, Buses, Autos:** On proved, low-cost performance, Socony-Vacuum's automotive lubricants have become favorites of truckers, bus operators and motorists. They're dependable protection for railroad "feeder" equipment.

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FOR STILL MORE EFFORT!

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We Can Help!

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experience—the greatest
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YOUR Association of American Railroads reports there are 32 billion parts that must hold together to keep America's war-time traffic rolling on schedule.

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All this . . . to help you overcome the problems of Today and prepare for the promise of Tomorrow. We want you—we *urge* you—to make the most of this service. Call on us—any time.

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Wadhams Division • Magnolia Petroleum Company • General Petroleum Corporation of California

How to prevent inflation in one easy lesson



Put that money back in your pocket!

When a lot of people want the same thing, its price goes up.

Americans have more money today—much more—than there are things to buy with it.

So every big or little thing you buy—that you can possibly do without—cuts supplies and bids prices up on what is left.

Rising prices spell inflation. And every inflation has been followed by a cruel and bitter depression . . . men out of work, homes lost, families suffering.

We don't want inflation: we don't want another depression.

4 THINGS TO DO to keep prices down and

help avoid another depression

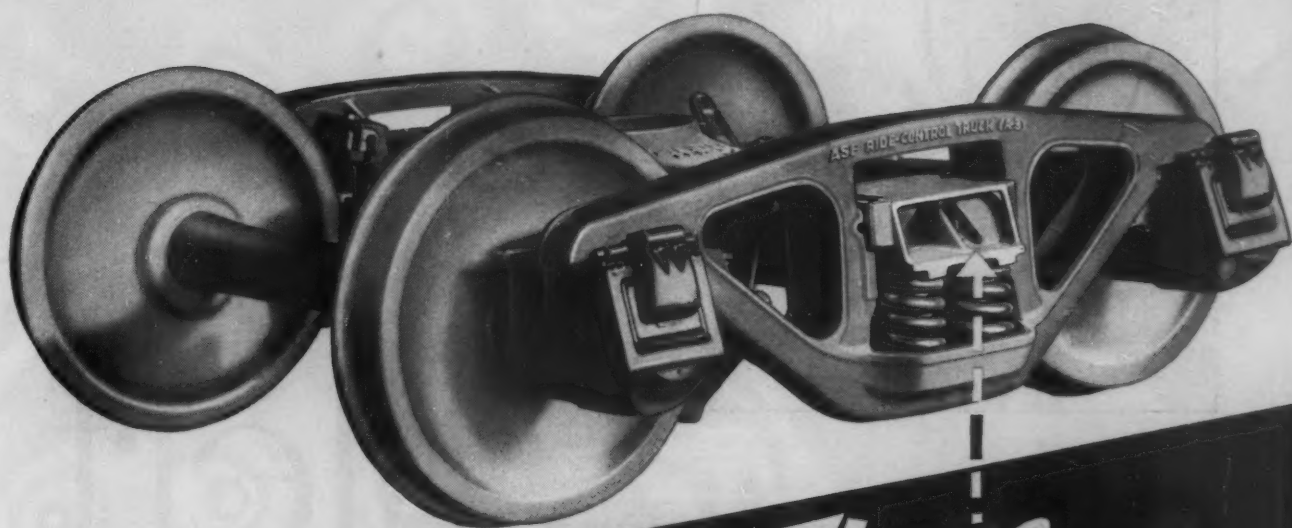
1. Don't buy a thing you can do without.
2. Never pay more than the ceiling price. Always give stamps for rationed goods.
3. Don't take advantage of war conditions to fight for more money for yourself or goods you sell.
4. Save. Buy and hold all the War Bonds you can afford—to help pay for the war and insure your future. Keep up your insurance.

**HELP
US
KEEP**

PRICES DOWN

A United States War message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.

NO SPRING PLATES • NO SPRING PLANKS



IT GETS FREIGHT *There*
WITH *Less* ROADBED WEAR!

BECAUSE the A. S. F. Ride-Control Truck (A-3) prevents harmonic oscillation, no rhythmic pounding is transferred from rail to roadbed. And, since lateral truck motion is also controlled, cars ride evenly—without the swaying that otherwise exerts destructive pressures first on one side of the roadbed, then on the other. The Ride-Control Truck not only cushions the lading that it carries but does so without sacrifice of rail equipment or roadbed.



THE TRUCK FOR TODAY'S NEED-TOMORROW'S SPEED!

AMERICAN STEEL FOUNDRIES

CHICAGO

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FINE CAST STEEL



ALWAYS ON THE Alert

That's the fate of railroads. Night and day, year after year, in war or peace, they are servants of a vast and restless population. There is never any standing still, either in operations or in planning for the future.

Right now, even with their tremendous war job far from ended, railroad executives must look to the years ahead. The last few years before the war opened a brilliant vista in rail transportation. With a taste of what modern travel comfort and luxury can be, passengers were flocking to the ticket windows in fast-increasing numbers.

That this trend will continue when peace comes, no thinking railroad man will doubt. The immediate job is to get ready for it.

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In Action Longer

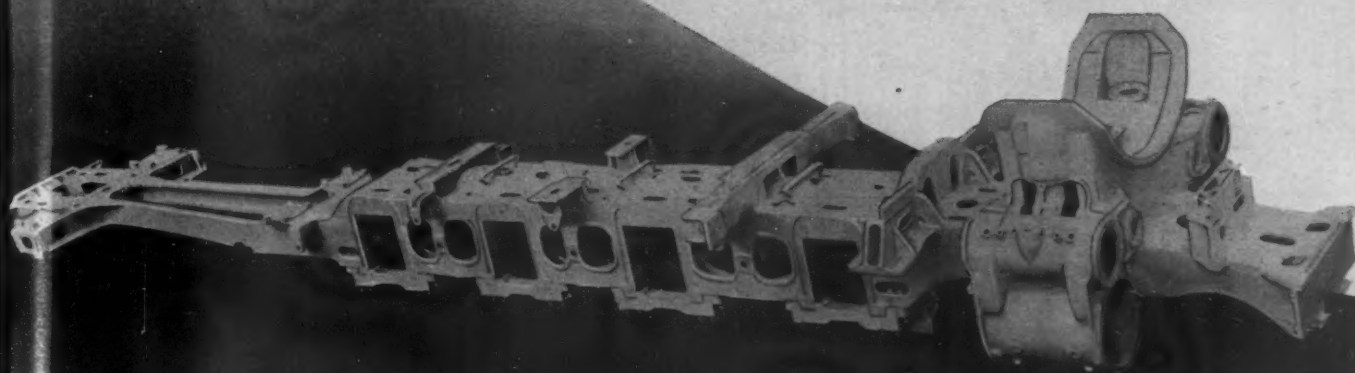


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IT IS a proven fact that locomotives equipped with COMMONWEALTH Cast Steel Locomotive Beds spend less time in repair shops—give more useful miles of active service.

COMMONWEALTH Locomotive Beds incorporate in a single strong casting the main frames of the locomotive, the cylinders, cross bracing, deck castings, and various brackets—eliminating many separate parts and hundreds of bolts and nuts. They provide greatly increased strength with less weight—simplify locomotive design and construction.

Because America's War Effort demands intensive, continuous locomotive operation, the benefits derived from the use of Commonwealth Products are more important than ever today.



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NY AGE

KEEP YOUR LOCOMOTIVES

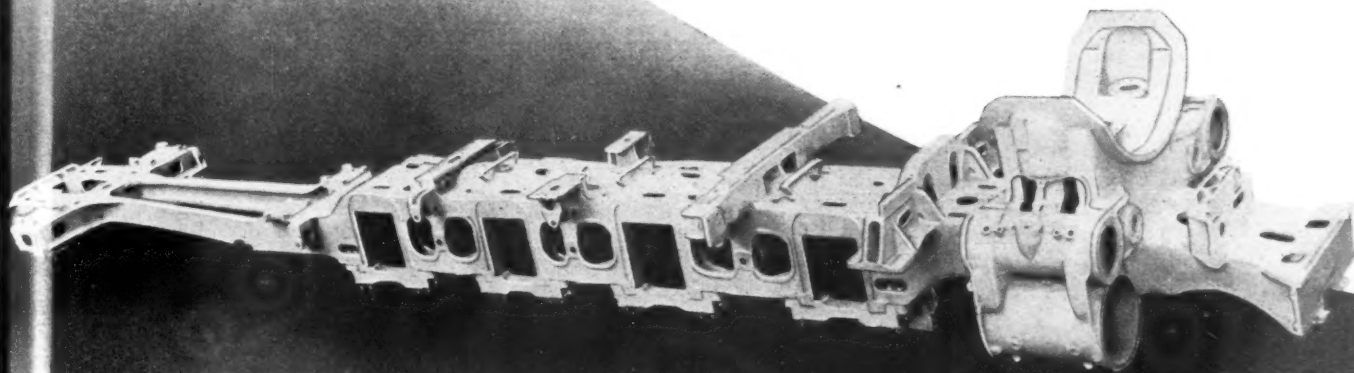
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Nearly forty years ago this Corning Optical Lens was first introduced to railway signal men. It is only natural that, in the course of time, there should have been refinements in the flange design and continued improvement in manufacturing technique. That is to be expected because of Corning's continuous research in glass.

The outstanding and rather remarkable point is that no means have been found, in all these years, to improve the fundamental Optical design.

The Optical type lens projects a narrow, high candlepower beam useful on straight track. Corning also manu-

factures the Spredlite lens which produces a fan-shaped beam useful for curved tracks. Deflecting lenses have been created for high signals to give a close-up signal indication. If it is needed on the railroads—Corning makes it.

Railway men look to Corning for dependable, economical and practical solutions to their signal glass problems. Corning Railroad Glassware can be supplied by all manufacturers of lamps, lanterns and signals.

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Research in Glass

no spangles

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for JUMBO'S COUSIN

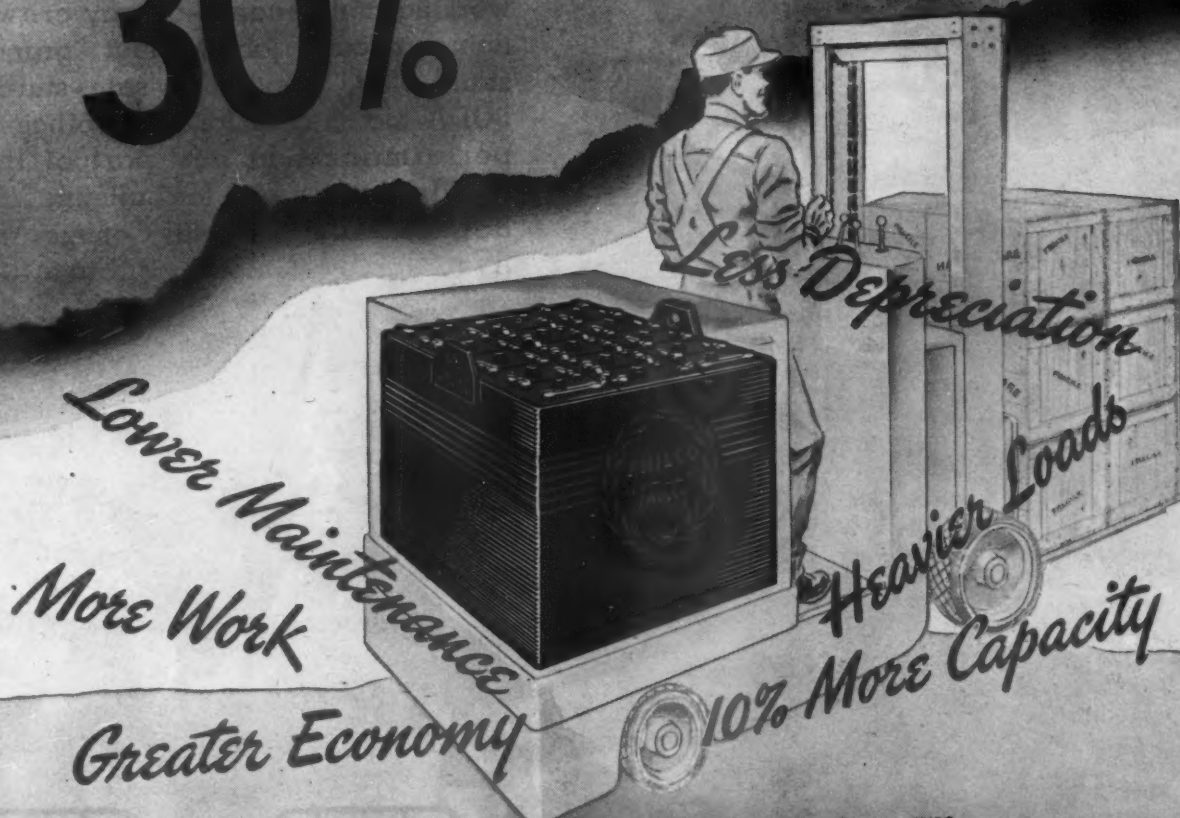
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PHILCO CORPORATION, Storage Battery Division, Trenton 7, New Jersey

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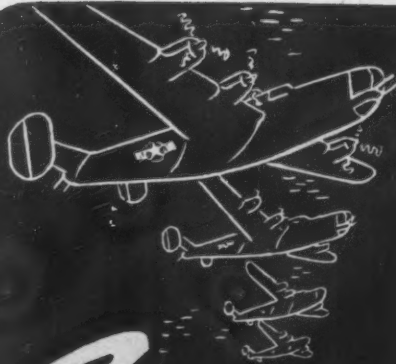
Protect your parts in storage — castings, trucks, wheels, and many other pieces of equipment — against destructive rust and corrosion with this specialized Presstite product. One of the largest roads in the country uses many thousands of gallons per year for this purpose.

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Would you like to know more about the structural possibilities of Republic ENDURO—for instance, how its application can improve high-speed,

pay load-carrying mobile equipment such as trains, aircraft, trucks, buses and marine craft?

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Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered in U. S. Patent Office.

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In This Issue

Great Northern Builds Plywood Cars in Company Shops

227

While the use of plywood in freight car construction is not new, these 1,000 ruggedly constructed box cars embody its most complete and extensive use so far on box cars as a permanent material.

Southern Pacific Makes Bridge Earthquake-Resistant

232

A specially designed structure crossing a major earthquake fault on this road's Coast line is intended to withstand all ordinary earth movements, while devices are applied to give warning of unsafe conditions.

T. & P. Is Geared for High Speed

236

The ability to move fast trains with standardized locomotives has allowed the Texas & Pacific a "cushion" of excess capacity to handle freight traffic, even under the strain of war-time demands and heavy increases.

EDITORIALS

Railways in the Post-War Period	223
The Transportation Corps Should Be Perpetuated	224
Good Enough Is the Best	224
How Finance Transport Improvements?	225
Smaller, Hotter Motors	226
Preventing Fires	226

GENERAL ARTICLES

Great Northern Builds Plywood Cars in Company Shops	227
An R.T.O. in England	230
Diesels Show Operating Economies	231
Southern Pacific Makes Bridge Earthquake-Resistant	232
723rd Railway Battalion Trains at Lincoln	234
T. & P. Is Geared for High Speed	236

COMMUNICATION

238

RAILROADS-IN-WAR NEWS

240

GENERAL NEWS

244

FREIGHT OPERATING STATISTICS

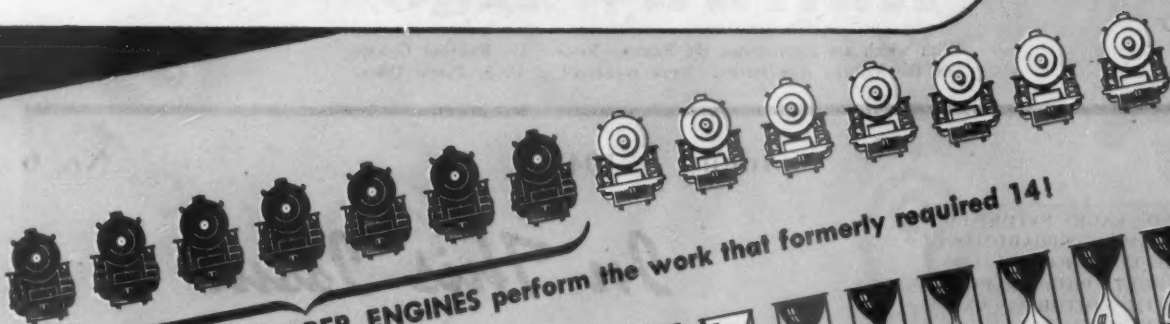
255

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

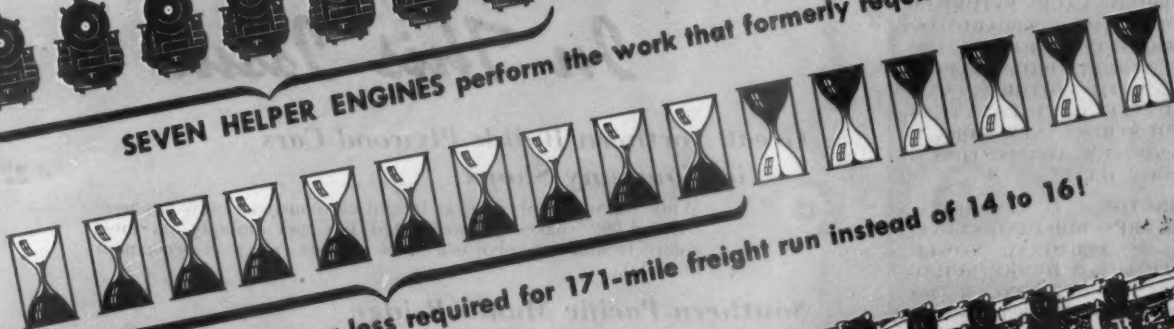


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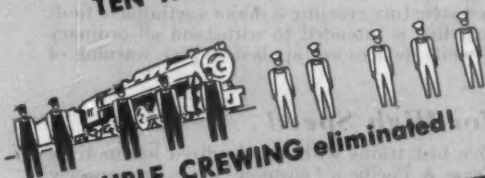
"Union" C.T.C. accomplished this for one railroad



SEVEN HELPER ENGINES perform the work that formerly required 14!



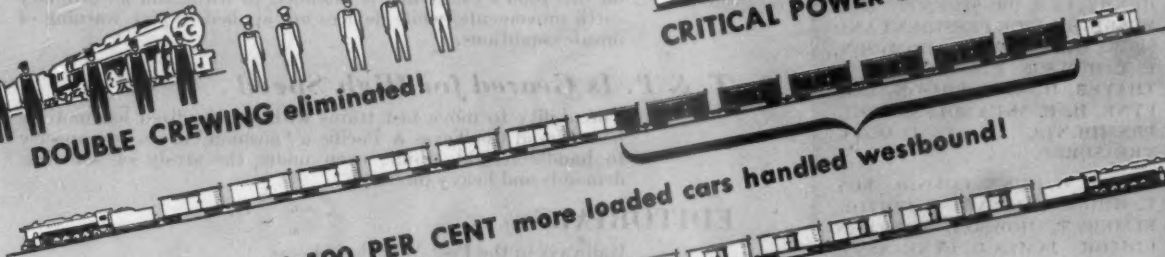
TEN HOURS or less required for 171-mile freight run instead of 14 to 16!



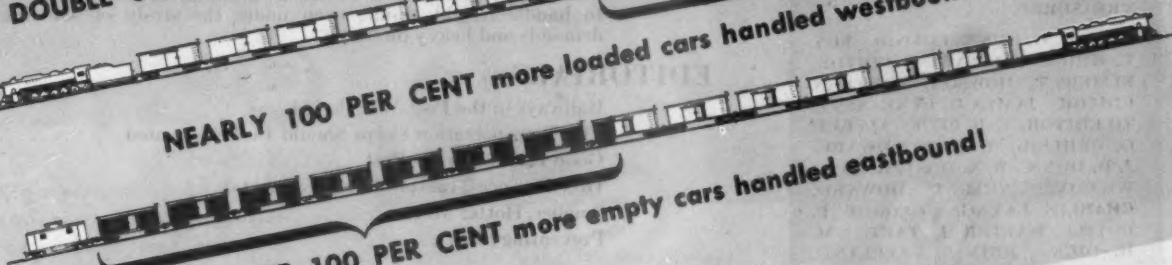
DOUBLE CREWING eliminated!



CRITICAL POWER SHORTAGE relieved!

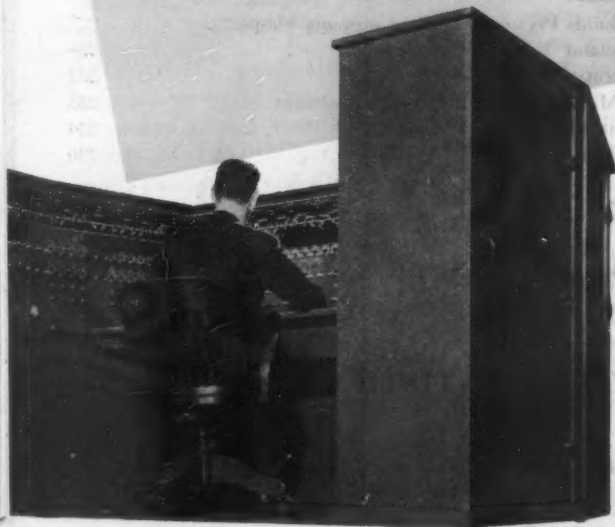


NEARLY 100 PER CENT more loaded cars handled westbound!



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**... what can it do
for your road?**



AS an urgent corrective measure to eliminate congestion resulting from numerous train delays on a single-track subdivision in a mountainous district, one railroad installed "Union" Centralized Traffic Control. The noteworthy results obtained by this installation are typical of the operating advantages achieved by this modern system. Why not let us study your "bottle necks" and make recommendations, without obligation to you!

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SWISSVALE, PA.

NEW YORK

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ST. LOUIS

SAN FRANCISCO

The Week at a Glance

"POSTWAR" GETS CLOSER: It is not indulging in over-optimism to observe that the war in Europe is likely to be over before many months and that, when it does end, the conditions grouped under the term "postwar" will immediately arise, in part—to become completely operative as soon thereafter as the Oriental-master race joins its Nordic archetype in military oblivion. What the railroads should then be able to contribute to the restoration of a prosperous peace-time economy is the subject of the leading editorial in this issue. It is pointed out that the railroads expended 53 per cent less with manufacturers in the decade ended 1940 than they did in the decade ended 1930 and that, even since the war began, their expenditures have still been far below the pre-1930 level. With the excessive wartime use of railroad property, it is a safe assumption that railroads' postwar outlays will be large so long as their funds hold out; and they are reasonably certain to have the funds, at least to initiate expenditures at a high level.

SPEED IN THE SOUTHWEST:

How a twenty-year program of steadily improving facilities when the need was not always pressing has paid big returns in performance under wartime conditions is indicated in a feature article describing some of the steps taken to gear the T. & P. for sustained high speed operation. Without sacrificing tonnage per train, the average speed with which this road's freight trains get over the railroad has been consistently increased, even since 1942. This accomplishment is the result, among other things, of introducing standardized locomotives capable of keeping freight moving at passenger train speeds, of modernizing signal installations and of speeding terminal performance.

PERTINENT ADVICE: At the very same time that the railroads have been urging potential customers not to travel by train while the present emergency continues—even though several roads have not regularly had to tax their passenger-carrying capacity to the utmost—some of their airline competitors have been conducting well-planned advertising campaigns designed to stimulate travel and, apparently, to push themselves ahead in the race for business while the railroads have been compelled by government request to travel under wraps. Just recently, as reported in a news item this week, O. D. T. Director Johnson has had to invite this publicly-aided industry to cooperate more effectively in upholding the present public policy of discouraging travel. The railroads' record in this respect ever since Pearl Harbor has, he says, been "exemplary."

TOO INDEPENDENT: New Deal-needler Harry Byrd's special committee on reduction of non-essential federal outlays has put the finger on the Inland Waterways Corporation, in a report submitted to the Senate this week. This government instru-

mentality is free of control either by Congress or the Bureau of the Budget or the General Accounting Office, yet it competes actively, and with all the advantages of federal sponsorship, against private enterprise. At least, the Senator said, this now autonomous agency ought to be brought under more rigid authoritative supervision.

POSING A QUESTION: The sharp contrast between the favorable position the railroads find themselves in when they want to raise capital to procure new cars and locomotives and their definitely discouraging prospects of garnering any new funds for improvements to fixed property—apart from what they can lay aside out of net, at the expense, largely, of long-suffering shareholders—is pointedly drawn in an editorial in this issue. The reason for this seemingly anomalous situation is clear—the fixed plant of other forms of transportation, with which the privately financed railroads must vie in providing economical and efficient service, is largely furnished by the taxpayers, and the prudent investor finds such competition a little too keen for his taste. The question facing the industry, and the country, is this: Where are the railroads to get the money with which to expand and improve their fixed facilities, so long as other forms of transportation, of less basic economic importance, enjoy the generous support of the public treasury? Such an illogical state of affairs, it is suggested, cannot go on much longer.

1000 PLYWOOD CARS: The Great Northern is adding to its freight car equipment by construction in its company shops of 50-ton cars using this versatile material for outside sheathing, and lining and ceiling insulation. As a descriptive article in this issue observes, it is significant to note that the new cars are to be used in the transportation of high-grade, heavy commodities—and the cars are of especially rugged construction. The cars are 40 ft. 6 in. long and average slightly less than 23 tons in weight.

THE "PICNIC WAGON": A communication is published in this issue from a Chattanooga business man, who broadly challenges railroad policy on the question of accepting aid from the public treasury. It isn't what thinkers desecrate as logical that determines public policy, he argues, but what John Q. Public wants—be it reasonable or otherwise. Mr. Citizen has listened to the tales of futuristic transportation developments for which he will pay with his taxes, and approves them; and the railroads had better not keep so conscientiously at their chores that they miss the picnic. Our correspondent argues—perhaps a little more persuasively than accurately—that intensive improvements to railroad roadways at taxpayers' expense would not be a subsidy, if initiated for the declared purpose of strengthening the national defense. One doesn't have to agree wholly with this letter-writer to derive considerable stimulus to new ways of thinking from what he says.

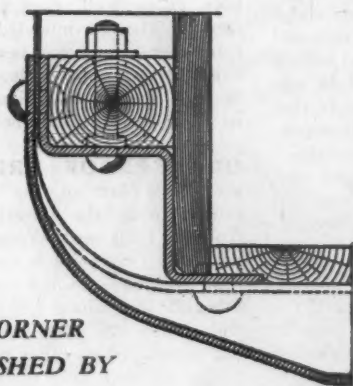
LET'S KEEP THE T. C.: In last week's issue Major General C. P. Gross, the Army's chief of transportation, revealed facts and figures on the astonishing performance of this branch of the military service—an accomplishment which it would be folly to expect Army men without specialized attention to transportation to have attained. An editorial in this issue raises the question of the permanency of this Corps. So far it does not have statutory existence, but has come into being only as a result of an executive order. There was a Transportation Corps during the last war, but in the years of peace it was abolished. If the Army is going to keep up-to-date in peace-time, so that it will be fully prepared for all emergencies, should not this Corps of skilled specialists be made a permanent part of the military establishment? Our editorial also suggests that advice of competent military authorities is needed in the peace-time formulation of national transportation policy—so that the nation will no longer trust to luck as it did in the '30's for the healthy survival of transportation facilities essential to the national defense.

112-PASSENGER COACH: While there may be quite a few railroads that can cite instances where they have hauled 112 passengers in one coach in these abnormal days, no one would contend that these passengers are being transported in anything approaching comfort. But, as this week's news pages reveal, one manufacturer at least has designed for the postwar market a coach that will seat 112 persons in comfort, and afford many conveniences and luxuries as well, even to capacious card rooms. Though intended particularly for commuter service, this new departure in car engineering is susceptible to many variations to meet specific conditions while retaining its basic three-deck principle.

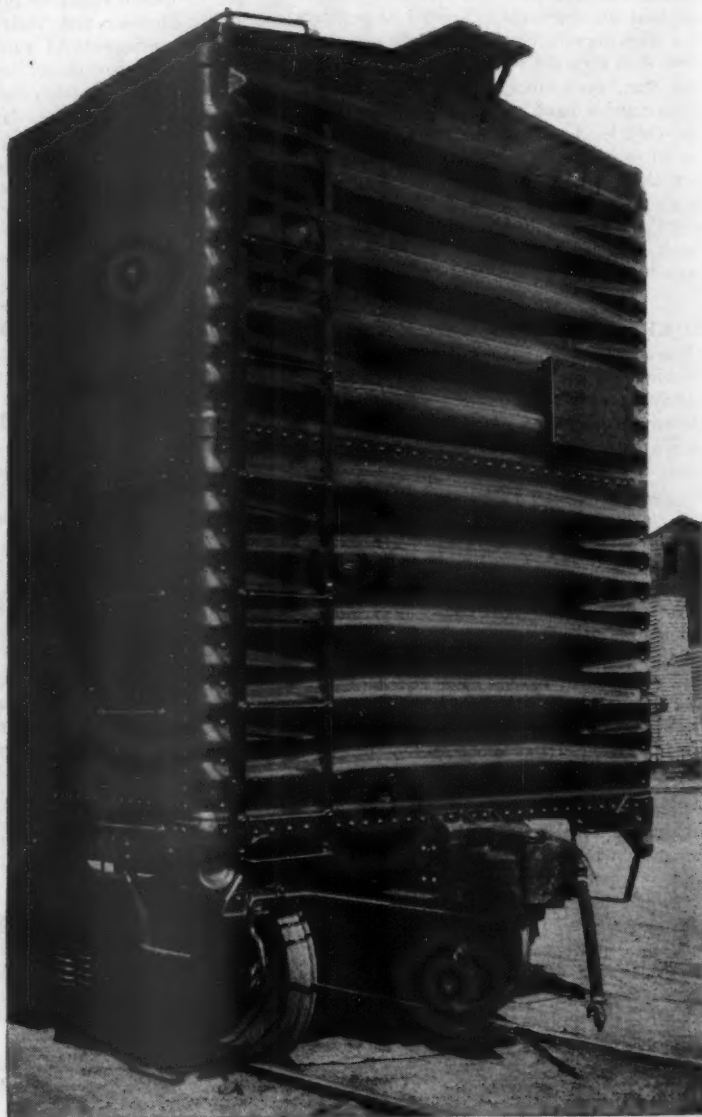
QUAKEPROOF BRIDGE: Because the Coast line of the Southern Pacific crosses what the scientists call the San Andreas fault near Watsonville, Calif., its bridge at that point is particularly susceptible to earthquake disturbances, this "fault" being the line along which the earth strata shift when one of these seismic phenomena occurs. Steps taken in designing a new bridge at that point to make it as near earthquake-proof as was practicable, and to protect trains against accidents resulting from disturbances sufficiently severe to make the structure unsafe, are outlined in an article on page 232.

LESS LEFT IN THE TILL: In the first half of this year the net income of Class I roads was only about 70 per cent of last year's figure for the same period. June was the thirteenth consecutive month in which net earnings showed a decline. These facts, and others from the A. A. R. summary abstracted in the news pages, tell their own story of the effect of government-dictated wage increases and government-instigated rate cuts on the capacity of private industry to meet its responsibilities.

FREIGHT CARS ARE RECEIVING
SEVERE PUNISHMENT IN THIS EMERGENCY.
MAINTENANCE RECORDS WILL SHOW
THAT CARS WITH
Round Corner
DREADNAUGHT
ENDS AND
W-SECTION CORNER
POSTS ARE PROVING
THEIR VALUE.



W-SECTION CORNER
POSTS FURNISHED BY
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RAILWAY AGE

Railways in the Post-War Period

The post-war period regarding which there has been so much talking and planning is rapidly approaching. Apparently the war with Germany will be won within a few months; and Charles E. Wilson, vice-chairman of the War Production Board, has estimated that production for war can then be reduced 35 per cent—approximately \$35 billion annually. This will release for other use huge volumes of manpower and materials. And the progress being made in the war with Japan indicates that it will not last as long as originally anticipated after the United States, Great Britain and China can turn their entire power against Japan.

What will happen to the railways, and what will they do, after the war with Germany ends, and especially after both wars end? Following World War I their traffic declined and their expenses increased in 1919; both traffic and expenses increased to record levels in 1920; and both declined sharply in 1921. Recovery began in 1922; and prosperity prevailed until the end of 1929.

Conditions, and therefore probably developments, will be quite different following World War II. (1) The increase in expenses in 1919 occurred while the railways were still under government management and was merely a continuance of increases that had occurred in 1918, causing railroad deficits in both years. (2) There being no government controls of prices, a large buying movement caused inflationary advance of prices, of railway and other wages and of railway rates in 1920, which were promptly followed by precipitous declines of prices, of general business and of traffic. It is likely that following the present war such changes will be prevented by temporary continuance of government controls. (3) There was then a government Railroad Labor Board which ordered the advances in railway wages made in 1920, necessitating the large advances in rates; but the Railroad Labor Board also ordered reduction of wages in 1921 and 1922, in the latter of which years the Interstate Commerce Commission also ordered reduction of rates. There is now no Railroad Labor Board. While rates will be no higher after this war than before it began, railway wages will be higher; but, under private management, instead of incurring increasing deficits, the railways during this war have earned and are still earning enough net operating income to have reduced their indebtedness and, by restricting dividends, to have put aside some \$2 billion for future use.

It seems to be the consensus of business and economic opinion that the large savings the people have accumulated during the war will cause another post-war building and buying movement such as began in 1919 and 1920; and that general business will be good enough for about five post-war years to provide a national income averaging \$125 billion. If this should be the course of developments, the railways, with the funds already accumulated and prospective post-war earnings, could effect extensive improvements to reduce their costs, improve their service and prepare for meeting the increased competition to which they expect to be subjected. And they cannot begin too soon preparing to meet this competition.

If general business for a period following the war is as good as most forecasters expect, the magnitude of the expenditures the railways may reasonably be expected to make is indicated by the following facts: Railway purchases of manufactured materials and supplies plus capital expenditures (including equipment) averaged \$1,902 million



annually in the five years 1921-1925, inclusive; \$1,915 million in the five years 1926-1930, inclusive; \$1,908 million in the ten years 1921-1930, inclusive; \$763 million in the five years 1931-1935, inclusive; \$1,016 million in the five years 1936-1940, inclusive; \$889 million in the ten years 1931-1940, inclusive; and \$1,423 million in the three years 1941-1943, inclusive. Approximately 90 per cent of these outlays consisted of purchases of equipment and materials from manufacturers and payments for various services by outside contractors. They averaged 53½ per cent less in the decade ending with 1940 than in the decade ending with 1930, and 26 per cent less in the three years 1941-1943, inclusive, than in the decade 1921-1930, inclusive.

The foregoing facts make plain that the railways will need to make much larger expenditures for rehabilitation and improvements during the approaching post-war period than they made during the last post-war period; and if general business is good they undoubtedly will make them.

The Transportation Corps Should Be Perpetuated

The Army's Transportation Corps—as reconstituted for the present conflict—was two years old on July 31, and its commanding officer, Major General Charles P. Gross, issued a commemorative statement summarizing its achievements, which was reported in last week's *Railway Age*, page 207.

The record is one without parallel—more than 4 million troops and 63 million ship-tons of supplies transported overseas in the 31 months from December, 1941, to June, 1944, plus organized domestic movement of 23 million troops and 188 million tons of equipment. The Transportation Corps has been the “industrial traffic manager” rather than the actual operator of most of the railroads, ships, and trucks which have transported the bulk of this enormous movement—but the greatest skill, organization, and co-operation on the part of the “traffic manager” has been required to enable the transportation agencies not under Army control to produce this volume of movement with the facilities available. The “traffic manager” deserves his share of the credit, along with the agencies which actually produced the movement.

As an actual operator of transportation facilities, the Transportation Corp's major enterprises have been the Military Railway Service (originally organized under the Army engineers) and its port battalions, trained specialists ready to take over transport facilities in war zones where civilian agencies are unable to function effectively. Regular readers of this paper do not need to be reminded of the major contributions to the success of the Allied arms which the M. R. S. is making in every theatre of action.

It is fitting to accord the Transportation Corps its meed of praise—but it would be even more to the point for our military authorities, Congress, and the

people to recognize the specialized importance of transportation in modern warfare by giving the Transportation Corps permanent statutory status. As it is, the Corps exists as a distinct branch of the service only by grace of an executive order—and a post-war wave of conservatism toward things military might stifle this promising infant in its crib, just as its prototype was suffered to expire after World War I.

Since the type of knowledge the Transportation Corps has acquired is highly specialized—and not technically related to the other branches of warfare—it seems scarcely likely that the lessons of the Corps' experience would be fully preserved, systematized, and studied by our military leaders if the Corps were disbanded when the war ends. The preservation of the Corps, on the other hand, would not only assure the embodiment of its technological accomplishments as an integral part of the management of our national defense henceforward, but would also serve to perpetuate the mutually helpful collaboration which the Army, through the Transportation Corps, has developed with civilian transportation agencies.

The Transportation Corps knows what is needed in civilian transportation for the adequate defense of this country, and its advice to the Administration and Congress on this score should be a helpful, and indeed is an indispensable, ingredient to the development of a consistent national policy toward all agencies of transportation—replacing the chaotic illogic which prevailed in this sphere in the interval between the two wars.

Using all types of transportation in accordance with their relative fitness—and with no reason except their comparative usefulness for preferring any one of them over the other—the Transportation Corps is in a position to give competent and impartial counsel to the nation on an issue where dispassionate voices are badly needed.

Good Enough Is the Best

In their paper before the American Society of Mechanical Engineers, part of which appeared on page 83 of the July 8 issue, S. L. Hoyt and H. W. Gillet of the Battelle Memorial Institute discussed structural materials for the railways with particular emphasis on plate and sections for railway cars, and castings and forgings both for cars and locomotives. Unlike most approaches to railway material problems the authors deal with them from the standpoint of steel production and heat-treatment technique. They point out the advances which have been made in the art of steel making, particularly as represented by the NE alloy steels in the effectiveness of which liquid quenching and tempering play an important part. They raise the question, at least by inference, whether the railway industry, in spite of its unhappy early experiences with liquid quenched and tempered steel, should not reexamine this subject because

of its favorable influence as a factor in alloy-steel economics.

In general, the authors plead that a careful study of the requirements of the service to be rendered be conveyed to the metallurgist more effectively than is now sometimes the case by way of engineering specifications so that no attributes be tailored into the product which are not necessary to meet the specific requirements of the service which the material is expected to render. By avoiding the price differentials for qualities not needed better returns may be obtained from the material dollar.

The forced advances in the metallurgical arts and in the selection of materials which have grown out of the war suggest a thorough reexamination of attitudes and practices in the railway industry.

How Finance Transport Improvements?

The nation could not be waging war all around the world—and it cannot produce a large national income in time of peace—without efficient and reliable railroad transportation. It is no disparagement of the valuable services rendered by truck transportation to point out that its *essential* contribution to national productive efficiency lies wholly in the provision of local haulage. The truck, while indispensable in local transportation, as a *long haul carrier* is merely a convenience—not a necessity—in the attainment of a high level of national production. Trucks could not take over the transportation service being performed by the railroads without a vast increase in costs, adding so much to the delivered price of commodities that people would have greatly to reduce their consumption of them. Waterways and pipelines make their contribution to transportation, but their services are too restricted as to commodities and areas to enable them to substitute to any considerable degree as carriers of traffic now moving by rail.

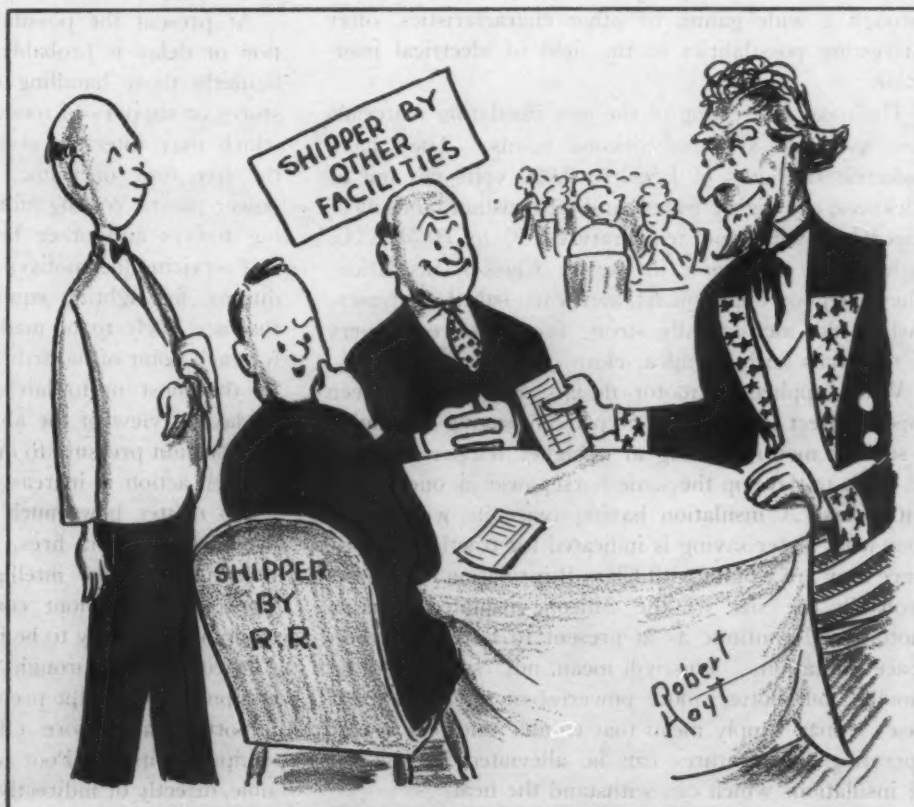
Since both national defense and a high level of national income require the maintenance of adequate and efficient railroad transportation, it is both para-

doxical and a menace to the nation's future that national policy should be as oblivious as it is to the *means* whereby such railway service may be continued. In short, where is the money to come from—in sufficient amount not only thoroughly to rehabilitate the railroads from the undermaintenance from which they are now suffering, but also to modernize their plant to parallel the technological advances in industry and in other forms of transportation?

At the end of March this year, the railroads' current assets exceeded their current liabilities by \$1.6 billion—which, although representing funds that in large measure should in justice be disbursed to long undernourished security-owners, is nevertheless a source which can, and probably will, be greatly relied upon for the restoration of the carriers' physical condition. There is not much difficulty involved to the railroads in raising capital for new motive power and rolling stock, largely because of the popularity of such securities with investors. The means and the prospects for post-war rehabilitation of the railroads and for modernization of their *equipment* are, thus, relatively favorable.

The case is quite different, however, when it comes to applying extensive modernizing improvements to *fixed plant*. Money is just not to be found for extensive betterments in this direction.

The railroads can easily sell securities for the purchase of equipment at an interest cost of 2 per cent. With their stocks selling at an average price of only a



"Wonder if the Old Gent Will Pick Up My Check Too"

little more than 40, the railroads, generally speaking, *cannot raise any new capital at all for improvements to their fixed properties* by the only method usually deemed financially sound.

On every hand, by contrast, plans are appearing for extensive additions and improvements to fixed plant for highway, waterway, and airway transportation. The financing of such improvements is, in every instance, planned as a burden on the taxpayers—with no added contributions from the users of these improved facilities to compensate for the outlay. This irrational and uneconomic method of financing improvements in fixed plant of competing transportation is the principal reason why investors' funds for improvements to railroad plant are unavailable.

What investor is so fondly optimistic as to be eager to commit his savings to the construction of a major railroad project—where he will have to depend on continuing payments by users to get his money back—when the government is building competing transportation facilities all over the map which are turned over to users without charge? The present illogical distinction between the means by which railroad improvements are financed—as compared to that employed in financing other transportation of less economic importance—cannot continue much longer.

Smaller, Hotter Motors

Synthetic resins, which vary from the tough elasticity of rubber to a glassy brittleness, and which run through a wide gamut of other characteristics, offer interesting possibilities in the field of electrical insulation.

The most interesting of the new insulating materials now available are the Silicone resins. They have dielectric strengths of 1,500 to 2,000 volts per mil of thickness, are highly water- and oil-resistant, and, most important, withstand temperatures 50 to 70 deg. C. higher than those now in use for Class B insulation. They are good impregnants, and when baked (polymerized) make mechanically strong bonds between layers of materials such as mica, cloth or glass fiber.

When applied to motor design, Silicone has been used to effect as much as a 50 per cent saving of weight; a smaller motor running at a higher temperature can be made to develop the same horsepower as one wound with Class A insulation having twice its weight. A somewhat lesser saving is indicated for traction motors, since they are wound with Class B insulation; and more probably the size of the Silicone-insulated traction motors will continue as at present to be governed by space limitations. This will mean, not "smaller, hotter motors" but hotter, more powerful motors. In many cases it may simply mean that trouble due to too high operating temperatures can be alleviated by the use of insulations which can withstand the heat.

For immediate application, Silicone may be a mixed

blessing. The higher temperatures introduce potential solder troubles, and depending on motor design, they might affect bearings; a babbitt bearing will anneal at 130 deg. C., and coil temperatures of 175 to 200 deg. C. are anticipated. For the same reason some time must elapse before the resins are applied generally to new motors. New designs must be studied and tried, but it seems justifiable to predict that new insulating materials will have a profound effect on both motors and generators. They should help materially more thoroughly to establish electric transmission for Diesel or turbine-powered locomotives.

Preventing Fires

An increasing number of fires in railway structures, some of them of considerable consequence, raises the questions whether present fire-prevention measures are sufficient, whether the fire-fighting equipment is adequate, whether there has been a let-down in supervision and inspection, or whether these fires have been caused principally by inexperienced and untrained employees.

It is obvious that a fire is to be avoided at all times and under all circumstances, where possible, and that substantially all fires are preventable. The importance of damage caused by fires in railway structures is measured less in dollars and cents than by the extent that it interferes with the movement of trains. If the flow of traffic is disorganized for a considerable period, the total loss may be greatly out of proportion to the property damage.

At present the possibility of loss through destruction or delay is probably greater in pier houses, particularly those handling or holding military or naval stores or supplies of food. Other buildings, the loss of which may interfere seriously with train service and the free flow of traffic, include enginehouses, shops, power plants, coaling stations, pump houses, interlocking towers and other buildings needed for repairing and servicing locomotives and cars. Under normal conditions, fire-fighting equipment adequate for the calls that are likely to be made upon it should be provided for each point of hazard. This should be supplemented by the most up-to-date methods for fire prevention. Today, in view of the abnormal increase in traffic and the constant pressure to move it speedily, the importance of such action is increased many fold.

No matter how much equipment, or what type, is provided to fight fires, it will be of doubtful value unless it is given intelligent supervision and regular inspection. Without constant oversight, fire-fighting equipment is likely to be inoperative when most needed. Consequently, thorough inspections, not only of the equipment but of the premises generally, are often more important and more effective than the fire-fighting equipment itself. Poor housekeeping has been responsible, directly or indirectly, for more fires than any other single cause.

Great Northern Builds Plywood Cars in Company Shops

1,000 units of 50-ton capacity embody exceptionally rugged construction designed for handling lumber, newsprint and other heavy, high-class commodities

ONE thousand 50-ton, 40-ft. 6-in. high-commodity box cars are now being constructed by the Great Northern at company shops, using plywood for outside sheathing, side and end lining, and ceiling insulation. Plywood is also used in composite doors on 600 cars. Steel underframes for the cars are made at Superior, Wis., and the cars completed in well-equipped shops at St. Cloud, Minn., the rate of production being six cars a day.

The general car dimensions and weights of the plywood box car are given in the table, and it will be noted that, since these cars are intended to be used extensively for shipping lumber, newsprint and other high-class heavy commodities, strength and ruggedness in construction have been secured even at some sacrifice in potential weight saving. With an average weight of 45,700 lb. and capacity of 3,727 cu. ft., the weight-capacity ratio is about 12.26 lb. per cu. ft.

The car underframe, with some exceptions, is constructed along the same general lines as with riveted carbon steel construction. The principal deviations are as follows: Use of 7-in. 18.8-lb. special channels for side

sills, this section being more satisfactory for a composite body than the conventional type; Z-bar center sills joined by a continuous Union Melt weld; body frame differing from A. A. R. weights, etc., of Z-bar side framing and other parts, the design being based on wide past experience in the construction of composite box cars.

Posts and braces are welded to the side sill and to the top plate, reinforced by gussets, also welded. Corner posts are a special W-section welded to the Dreadnaught steel end. The steel end sections are welded together. The

General Dimensions and Weight of Great Northern Plywood Box Car

Capacity (nominal)	100,000 lb.
Load limit	123,300 lb.
Light weight	45,700 lb.
Inside:	
Length	40 ft. 6 in.
Width	9 ft. 2 in.
Height	10 ft.
Side door:	
Width	6 ft.
Height	9 ft. 6 ³ / ₁₆ in.
Length over end sills	40 ft. 8 ¹ / ₂ in.
Distance between truck centers	30 ft. 8 ¹ / ₂ in.
Journal size	5 ¹ / ₂ in. by 10 in.



The Great Northern Fifty-Ton Plywood Box Car



The Plywood Sheathing Is Applied in Large Panels

roof is of the Murphy all-steel riveted-assembly type. The trucks are high-speed freight types, of which the majority are American Steel Foundry Ride Control and the others National B-1 and Barber Stabilized.

The cars are equipped with 5½-in. by 10-in. plain journals; one-wear wrought-steel wheels; Creco four-point brake-beam safety supports; and Universal brake slack adjusters. The composite doors on 600 cars are Camel and Superior; the former type in an all-steel design with roller-lift door fixtures are included on the remaining 400 cars. The draft gears are Miner and Cardwell Westinghouse. Type AB air brakes, furnished by New York, and hand brakes of the Ajax, Miner and Universal types are installed. Side bearings are of the Barber top-hung type; brake steps, either Apex or Gypsum; and defect card holders, Apex.

The Plywood and Its Treatment

The use of plywood for sheathing and lining is a departure from conventional design, and since this material represents a permanent construction, expected with ordinary maintenance attention to last the service life of the car, a careful study was made of all physical properties of plywood and of methods of positively securing the plywood to the frame. While the use of plywood in freight car construction is not new, this is the most complete and extensive use so far made on box cars as a permanent material. The most important problems presented were protection against slow decay which may take place at vulnerable points in long-life wood construction, prevention of surface wood-grain separation, and the development of positive and permanent securement of the plywood panels.

The plywood used for sheathing, side and end lining and doors is Douglas fir, 5⁄8-in. five-ply exterior grade

(waterproof), sound on one side. The ceiling insulation is ¼-in. three-ply. All panels are furnished cut to exact size. The panels, except ceiling, are first dipped in a special clear sealer and surface hardener. This material is made up of a penetrating oil containing suitable gums, and its effect is to protect the back surfaces against decay and to form a binder for the wood grain on exposed surfaces; this also serves as an excellent foundation for subsequent paint coatings. There is also good edge penetration. The bottom edges of sheathing are further waterproofed by the application of a heavy coating of car cement. After application of panels to the car, the exterior is given a coat of iron-oxide primer followed by two coats of orange enamel, Great Northern shade. Side trim and stenciling are Pullman green.

The waterproof sealer on the lining protects the back face from decay and gives a tough base for the varnish, these cars having the entire interior, including the floors, varnished. Incidentally, the floor, after being sanded to a smooth surface, is also given the sealer and hardener treatment, sprayed prior to varnishing.

How the Plywood Panels Are Fastened

Different methods of securing plywood panels to the framing were studied. A general nailing plan was developed with cup-washed bolts through siding at the side sill. The siding panels are butt jointed on the side post nailers. The nailed butt joint permits a slight movement between adjacent panels sufficient to prevent breakage of nails or tearing of the plywood at the edges. Ply panels are exceptionally rigid and weaving stresses are not relieved by body "drumming" of panels as occurs with steel sheathing, so that if too rigidly secured weave breakage of fastening is invited. In order to make a finished job at these butt joints a metal nailing strip punched



The Lining Panels Run Longitudinally

for nailing with a V-shape raised ridge down the center is used. The V-grooves are filled with car cement as applied, which serves as a further waterproof sealer over the butt joints. A special heavily galvanized oval-head nail was designed for all exterior plywood nailing. The nail heads are not driven into the wood.

The lining panels are laid horizontally to give maximum resistance against lading abrasion, which is mostly in the horizontal plane. The lining is face nailed with finishing nails. Two side girths are used, more to accommodate panel widths than for nailing strength. With present plywood panel width and length restrictions removed, plywood modified to suit one girth would be practicable and would no doubt suffice. Because of plywood width restrictions, it was also necessary to use wider side-post nailers than would otherwise be needed.

The lining sheets have their bottom edges embedded in car cement and rest on the top face of the top flange of the side sill. No grain trenches are used as with plywood there is little likelihood of foreign matter getting behind the lining. Breather gains between the siding and nailers at the side sill and in girths give mild ventilation to the space between siding and lining.

The end lining is placed in two vertical sections, with the joint glue-splined with waterproof glue. This is nailed to the end nailers. Also twelve of the end filler bolts have the nuts recessed in flanged cup washers in the plywood. This is to give a firm fastening and prevent drumming action against the end by lading, causing nails to work out or tear through.

The flooring is 1 $\frac{3}{4}$ -in. tongue-and-groove. Board ends butt against the inside face of the lining so that boards can be renewed without disturbing the lining.

The ceiling is $\frac{1}{4}$ -in. plywood. The panels run from side plate to center and are secured to carline nailers by Phillips screws. A moulding covers the joint at the



The Douglas Fir Plywood Sheathing Panels are Nailed and Bolts Applied at the Bottom

ridge and is secured to small studs by means of nuts recessed in flanged cup washers. At the side plate a lip moulding, covering the top edge of the side lining and supporting the outer ends of the ceiling, is also secured by means of studs welded to the steel top plate, with nuts recessed in flanged cup washers in the moulding. The aim is to construct a highly finished interior throughout without any protrusions and to prevent the working out of nails which might damage high-class lading.

One advantage considered is that should the plywood be service-damaged, since it punctures without appreciable splitting or shattering, ordinary damage can be easily corrected by the use of a small inserted patch, or for smaller holes by the application of a suitable filler and sealer. Another advantage, as compared to matched lumber, is its great strength and resistance to damage.

Where the Construction Work Is Being Done

For the purpose of spreading the work of building these cars as well as to make most advantageous use of available facilities, the job is divided between the Superior, Wis., and the St. Cloud, Minn., shops of the Great Northern. At Superior, the underframe material is fabricated and assembled, including draft gears and couplers but without the side sills. That shop is equipped with a complement of heavy machinery, special jigs, hoists, cranes, etc., including a recently installed heavy-duty Union Melt welding machine, making that plant especially adaptable for heavy steel work. Work is handled on the progressive plan and 17 car frames are turned out daily. Underframes and fabricated side sills are shipped to St. Cloud where the cars are completed.

St. Cloud is a large plant, well-equipped for general car repairing and building, except for the heavy steel



All Interior Surfaces Are Sprayed with Varnish

work. It is provided with appliances and special devices for efficiently handling the general assembly and finishing work. At St. Cloud, the trucks are assembled, and as the underframes are received, they are placed on the trucks and put in line on the assembly track. The side posts and braces are welded to the side sill at the bottom and the Yoder top plate at the top, the welding assembly of the sides being made on especially arranged racks and hoists so that all welding is down-hand. The complete side frame is hoisted and key-bolted in place at the first station inside the shop; then the car starts on its way.

The steel roofs are assembled on a special rack just above the floor, with a light traveler crane to carry the pinch riveter and another to carry the rivet heater. The assembled roof is picked up by two trolley hoists and put in place on the car ready for riveting.

The steel ends are stocked out of doors, and a traveler crane is used to set them on the underframe temporarily before it is moved into the shop. After the sides are set up, the space between two stations is fitted with a special hoist by which the adjoining ends of two cars are moved into position for key-bolting. The progressive method of car assembly is used throughout. All material for each station is delivered and piled, completely finished and ready for use at that station.

An R.T.O. in England

WHEN the American troops began to arrive in imposing numbers in Britain, they put a further heavy traffic load on the already-overburdened Britain railways. In order to fit this added traffic as nearly as possible to the convenience of the British railways, the U. S. Army Transportation Corps trained specially-selected enlisted men to act as "go-betweens" to serve both the Army and the railway companies by promoting thorough mutual understanding.

The enlisted man (usually a non-commissioned officer) assigned to this task is known as a "railway traffic officer" or R.T.O.

These R.T.O. soldiers, says a statement from the headquarters of the Army's European theater of operations, are on the job 24 hours a day, wherever there is enough Army business to call for such an assignment. They direct traffic, according to the Army's needs, keep freight on the right track, and above all, give precision to the handling of troop movements. They don't want some G.I. stepping off the train at Glasgow and asking: "Is this Liverpool?" The R.T.O. checks on all army goods leaving his station and makes sure that the crating and marking are not faulty. He weighs it and sees that it is dispatched on the right train and on time.

After two years of operation, the English public has come to know that the R.T.O. can be depended upon to give the right answer to any question about train timings, schedules, where to get a cup of tea, or any one of a hundred and one questions usually reserved for the information desk, or the nearby "bobby." The R.T.O. wears a red arm band that can be easily seen and other soldiers—Allied as well as American—are constantly seeking him out for advice.

R.T.O.'s can be found at practically every railway station throughout England. In some of the smaller towns he may be the only American stationed there and in that case will probably be billeted in a private home with an English family. Townspeople come to regard this Yank, more or less, as their own personal property.

He might have difficulty in carrying out his office duties due to conditions in which he has to work. However, his immediate surroundings will be scrupulously clean. His appearance and general conduct reflect directly on the Transportation Corps whose principal product is service and which insists that it be given in a cordial manner. He is a field man for the Chief of Transportation and must generally represent the armed forces.

He will keep in mind the R.T.O. creed that he will assist with the movement of units, parties, or individuals, British or American, on duty or on leave, and with the stores movement (freight) of the Royal Navy, R.A.F., or U.S. forces. It is his duty to give all service travelers the same help and not to confine his assistance to his own branch of the fighting forces.

In the large cities the railway stations have a full crew of R.T.O.'s on duty day and night. Given short notice they are capable of furnishing bag lunches to hundreds of American troops, and if time permits, coffee and tea is served on the platform. The traveling soldier is advised on anything that might concern him by the R.T.O. and has learned to look for the red arm band in case of difficulty. If he is out of funds and wants to return to his Base Depot, the R.T.O. has him on his way in a few minutes with no red tape at all. In most large stations in England, the American R.T.O.'s office is one shared with British, Canadians, Navy and R.A.F. R.T.O.'s. They work together in harmony and the Yank on seeing that he has something that might prove too big for his own personnel to handle doesn't hesitate to enlist the aid of the combined office force. This practice works both ways.

One incident that shows further the R.T.O. on the job comes from the files of this same station. On the night of March —, 194—, 450 American troops newly arrived in the E.T.O. were to detrain at Waterloo for a two-day leave in London. Only a matter of minutes before their expected arrival an air-raid alert sounded. Jerry wasted no time in making it the real thing and just as the train pulled in, shrapnel began ricocheting all over the area. The R.T.O. in charge of the arrival was a staff sergeant who had been at Waterloo for over seven months. The master switch at the station had been pulled and not a splinter of light was to be seen. The men were without their helmets as they detrained and with this, their first trip to London, were really getting a reception. The sergeant appeared as a guardian angel to them and quickly took the situation in with a minimum of time. Three other R.T.O.'s were there and to these were added the help of four M.P.'s. Arranging his men along the line of troops he had each of them flick a signal light whereupon the troops were guided a distance of two hundred yards into an air-raid shelter.

Every man had placed his gas mask over his head as the sergeant had ordered, and with flying glass and stone fragments as well as shrapnel blitzing the station, not a man was sufficiently injured to require more aid than was administered to him on the spot. Within an hour all was clear again including the removal of the troops from the station.

The sergeant had known for months exactly how he was to act in case of such an emergency. The R.T.O. takes immediate command and rank becomes secondary. Appearing on the daily report the next day was the notation that 450 American troops had arrived at Waterloo the night before at — time and due to circumstances beyond their control (air-raid) were delayed 57 min., after which they were loaded into trucks and driven to billets which had been provided for them.

Diesels Show Operating Economies

Terminal Railroad measures the value of Diesel-electrics in heavy switching and transfer service

DATA compiled by the Terminal Railroad Association of St. Louis offer interesting cost comparisons of steam and Diesel operation in heavy switching and transfer service. This railroad—which was operated entirely with steam locomotives until 1940—now has 33 Diesel-electric locomotives in service and 15 more on order. Twelve of these are 600-hp. units and all the others are 1,000's. The railroad has a total of 101 steam locomotives.

A smoke ordinance in St. Louis makes it necessary for all steam locomotives operating on the west side of the Mississippi river to use a low-volatile coal, while those operating exclusively on the east side of that river are not so restricted. In 1940, the railroad went beyond the requirements of the ordinance, and started using Diesel-electric locomotives.

Maximum grades which occur on bridge approaches are 1½ per cent and are about a mile long. Maximum runs for Diesel-electric locomotives are six miles, and for steam the longest run is thirteen miles. Trains hauled in transfer service frequently consist of from 70 to 80 cars. On occasions they considerably exceed this length, as many as 134 cars having been hauled in one train. These long trains are handled by two 1,000-hp. Diesel-electric locomotives operating with multiple-unit control.

The average cost for engine coal purchased during the year 1943 was \$2.96645 per ton, which includes off-line freight charges. The average hourly coal consump-

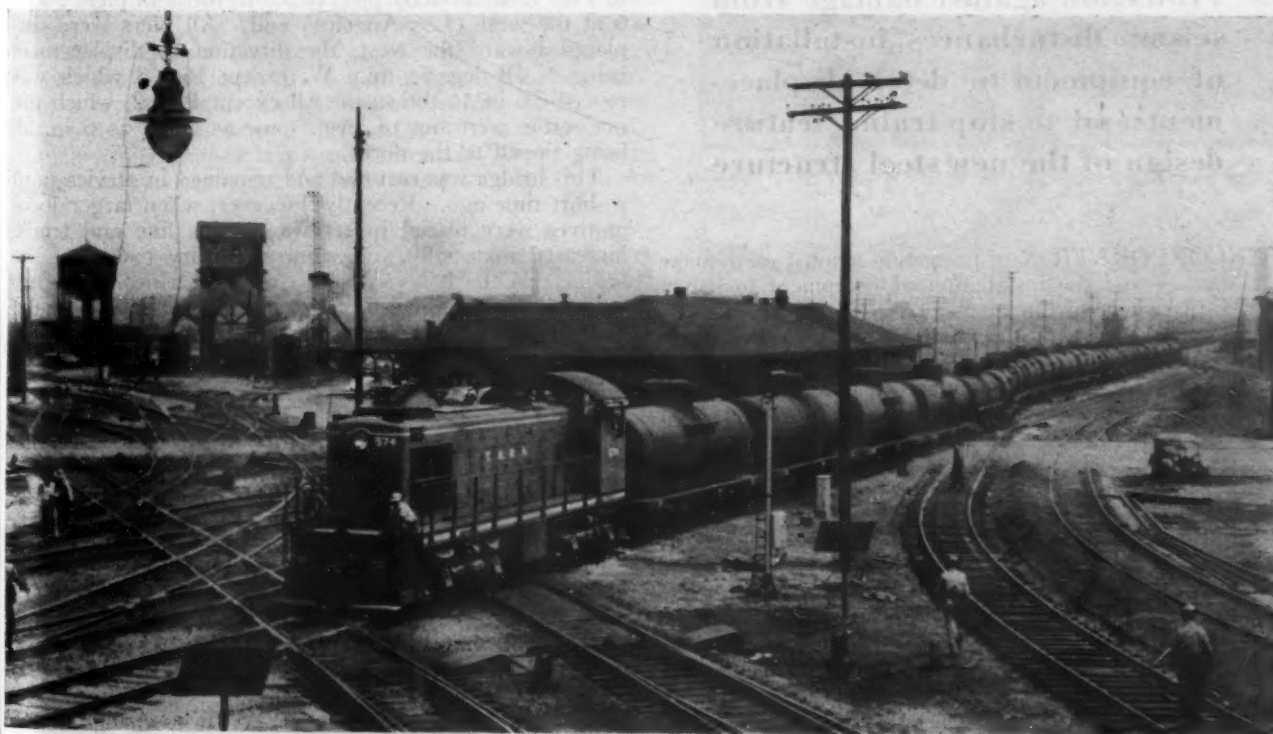
tion per locomotive was .425 tons and the figures shown in the accompanying table are derived from these values.

The average cost of the low volatile coal required for steam locomotives operating in the city of St. Louis as presently supplied from District No. 14 (Arkansas-Oklahoma), including off-line freight charges, is \$5.44 per ton. This represents an hourly fuel cost for locomotives supplied with low-volatile coal of \$2.312. Substituting this cost for \$1.2619 shown in the table for all steam locomotives the total hourly cost of steam locomotives would be \$6.13, which compared with \$3.143 (average hourly Diesel cost) indicates an hourly saving of \$2.987 made by Diesel operation on the west side of the Mississippi river where the St. Louis ordinance requires the use of low-volatile coal.

Based on 16 hours operation per day, it is expected that the additional 15 Diesel-electric 1,000-hp. locomotives now on order, will, when received and put to work, effect a daily saving of \$47.792 per locomotive as compared with present costs of steam locomotives assigned to service on the west side of the river. This daily saving in a period of one year (using the minimum of 307 working days) amounts to \$14,672.14 or 18.69 per cent on an investment of \$78,500.00 per locomotive. Current traffic volume requires an average daily operating time considerably in excess of 16 hours.

Relative Operating Costs Per Hour—Steam and Diesel

	Steam	Diesel
Fuel	\$1.2619	\$0.3277
Repairs	1.0708	0.4784
Water1473
Lubricants0295	0.695
Other supplies0240	0.282
Enginehouse expense2615	.0494
Wages of enginemen	2.2849	2.1898
Total	\$5.0799	\$3.1430



Diesel-Electric Locomotive Moving a String of Tank Cars Through the Interlocking in East St. Louis

Southern Pacific Makes a Bridge Earthquake-Resistant



The Old and New Structures. Note Backwall on Pier and Slots for Anchoring Continuous Girders

Protection against damage from seismic disturbances, installation of equipment to detect displacement and to stop trains, feature design of the new steel structure

INCORPORATION of protection against earthquake damage and the installation of equipment to detect displacement of the spans as a result of seismic disturbance, and to stop trains if this occurs, were features of the design of a new structure which the Southern Pacific erected recently to replace an older steel bridge. This bridge is near Watsonville Jct., Cal., on the Coast line of this road, which extends from San Francisco to Los Angeles, and crosses the Pajaro river and the San Andreas earthquake fault. At this point the river flows almost exactly over the line of this fault, along which, it will be remembered, the destructive earthquake of April 18, 1906 occurred.

At that time the bridge consisted of three deck-truss spans, each 120 ft. long, flanked on either end by 50 ft. deck girder spans, a total length of 460 ft. This structure carried a single track on a 6-deg. curve. The earthquake did considerable damage, particularly to the sub-structures, all piers being displaced both horizontally and vertically, in some cases enough to allow the spans to drop. The horizontal displacement ranged from slight

in Pier 1, the easterly pier, to 3.5 ft. for both piers 5 and 6 at the west (Los Angeles) end. All piers were displaced toward the west, the direction of displacement being N 78 deg. 55 min. W, except Pier 3 which was moved 6.6 in. to the east. All except Pier 2, which did not settle, were out of level, some as much as 6 in. all being tipped to the north.

This bridge was restored and remained in service until a short time ago. Recently, however, when larger locomotives were placed in service on this line and traffic increased materially, it became necessary to renew the bridge. When it became apparent that a new structure was called for, an investigation was made to determine the best location for it. Studies were also made to learn what measures could be taken to prevent damage in the event that other seismic disturbances occur in the future.

Geological Study Made

After a geological study, it was decided to build the new bridge approximately parallel to the old structure, with the east abutment opposite the east abutment of the existing bridge. The new bridge, which is on tangent north of the old bridge, consists of one 86-ft. deck-girder span and a three-span continuous deck girder having a total length of 360 ft. The new bridge carries a ballast deck. During the heavy rainfall in the latter part of February, 1938, water in the Pajaro river rose above the lower chord of the deck trusses. With no change in the elevation of the track across the bridge, low iron in the new structure is 9.8 ft. above this record flood.

Bridge-Alinement Protector Is Shown on the Top of the Pier in the Center Foreground



To guard against the possibility of the girders being shaken off the bridge seat and dropped, as the truss spans were during the earthquake of 1906, concrete supports were built at the edge of the abutment bridge seat and at the intermediate piers. It will also be noted by reference to the illustration, that a recess was built into the backwall of the abutment which carries the free end of the continuous girders. At the fixed end, these girders were anchored to the pier by means of plates passing through the backwall, with lugs on the far side. The rockers were designed to allow for an excessive movement of much greater amplitude than could be permitted with the standard allowance.

This design allows the abutments and piers to move within a reasonable range without damage to the superstructure. If the movement becomes too great and the girders leave the rockers, they will drop onto the concrete supports at the edges of the bridge seats and remain in that position until they are jacked back into place on the rockers, unless the piers are displaced to a greater degree than there is any reason to believe that they may be.

While these precautions which feature the design were intended primarily to prevent damage to the steel in case of a severe seismic disturbance of any magnitude up to, or of even greater severity than that of 1906, obviously, such a disturbance might occur without damage to the girders, yet leave the bridge in an unsafe condition for

the passage of a train. To guard against such a contingency, traffic is protected against an accident of this character by a bridge-alinement protector.

This device consists of a heavy pendulum which hangs free in a tripod set near the edge of Pier 3. In its operation, this pendulum is placed in a circuit which runs from a 12-cell primary battery through and energizes a relay

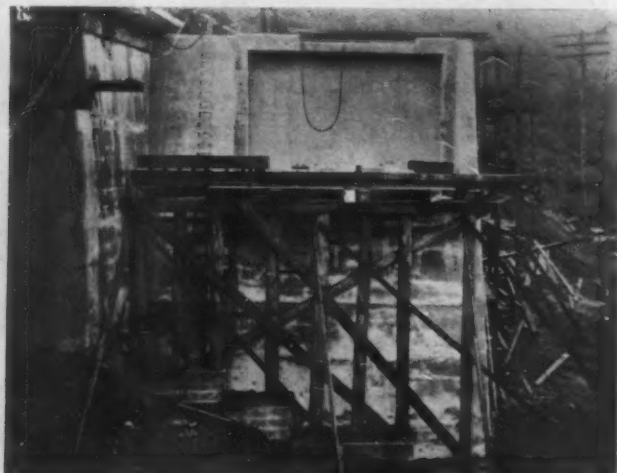
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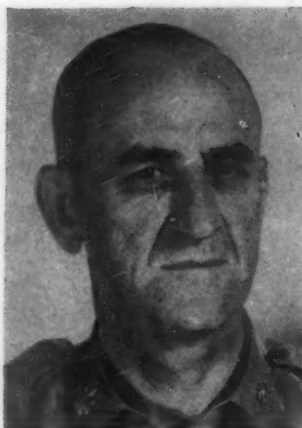
Anchor Pier Before Plates Through Backwall Are in Place



Concrete Supports on Intermediate Pier to Prevent Damage to Girders in the Event of Severe Earthquake



Pocket in Backwall of Abutment to Allow for Movement of Substructure



Lt. Col. D. Gresham



Maj. O. E. West

723rd Railway Battalion Trains at Lincoln

THE 723rd Railway Operating Battalion, sponsored by the Union Pacific, has been stationed at the Lincoln (Nebr.) Army Air Field, where practical experience in railway operation has been provided its enlisted personnel through co-operation of the Burlington. The commanding officer of the 723rd is Lieutenant Colonel Doyle Gresham, formerly chief dispatcher of the Union Pacific's Kansas division. Executive officer of the battalion is Major O. E. West, formerly assistant superintendent of the Union Pacific at Cheyenne. The battalion adjutant is Captain G. O. Larmer, formerly chief clerk to the U. P. division superintendent at Los Angeles.

As customary in the Military Railway Service, the 723rd comprises four companies. "A" company deals with maintenance of way; "B" company with mainten-

ance of equipment; "C" company operates the engines and trains; and the fourth or "headquarters" company takes care of housing, mess, paper work, and trains dispatchers and telegraph operators.

School for Telegraphers

The 723rd is receiving its railroad training on the Burlington's Lincoln division—extending northward to Sioux City, eastward to Omaha, southeast to St. Joseph and westward to Ravenna. Soldiers are allocated with civilian railroad employees, who instruct the enlisted men in the various duties necessary to railroad operation. The battalion's school for telegraph operators, at Lincoln Field, is presided over by 1st Lieutenant James E. McClooney, from the Baltimore & Ohio, who also gives

LEFT: A Train Crew Gets Its Assignment for a Run on the Q.
RIGHT: Practical Experience at Signal and Telegraph Maintenance





ABOVE: GI Conductor Private Albert Fleck Gives the Highball to the Engineer. BELOW: Col. L. D. Zeck Inspects Explosives Used in Field Maneuvers, with Lts. V. G. Dyer and G. C. Teffertillar



First Lt. James E. McClooney Instructs the Class in Telegraphy



instruction in types of equipment likely to be met with in foreign theaters.

At the Burlington's Lincoln engine terminal soldiers of "B" company receive practical experience in making running repairs to locomotives, with the assistance of railroad employees and under direction of Captain E. O. Joest, who also hails from the U. P. Some of the "B" company boys are also working on the rip track and

going more deeply into the mysteries of equipment maintenance procedures at the shops at Havelock.

The "C" company soldiers are divided into train crews and engine crews which take their turns operating, under supervision of regular Burlington employees, a local freight train running between Lincoln and Columbus. The operation is on single-track and operation is conducted by train orders, a system the soldiers must learn since they cannot expect that the enemy will be obliging enough to leave signaling systems intact on railways in military zones.

Further to encourage interest by the 723rd's personnel in the acquisition of skill at telegraphy, telegraph sets have been installed in battalion offices and in the men's barracks. Each student has his own call letters and may at any time communicate with a buddy located elsewhere. In an amazingly short time the soldiers have acquired acceptable proficiency at receiving and transmitting. Those who have particular aptitude for the key are at work in the Burlington offices in Lincoln, and later will be assigned to line stations.

A project which the battalion hopes soon to complete is a scale model railroad, representing 100 miles of track. Upon this miniature layout, a wide variety of railroad problems are to be studied.

While some of these soldiers have had previous railroad experience, others had never so much as been on a train before they entered military service. Hence, instruction in safety has been a major requirement. Before assuming any railroad work whatever, the students are instructed thoroughly in the use of safety goggles and gloves, and are shown the right way to do each step of their jobs.

T. & P. Is Geared for High Speed

Standardized locomotives assist in getting freight over the railway at overall speeds up to 60 m. p. h.

AS a result of consistent adherence to a policy during the two decades preceding the war of steadily improving its physical properties, the Texas & Pacific has been in an excellent position to handle its share of the war-time freight traffic on high-speed schedules. Busy as this railway now is, it has never yet been pushed to capacity and still has a "cushion" which will enable it to handle still more freight if the occasion demands. The ability to move trains fast has contributed in large degree to this excess capacity.

People unfamiliar with the territory traversed by this line are accustomed to think of the Texas & Pacific as a flat, prairie railway, running across the Texas plains with few grades to interfere with smooth operation. This characterization is true of the line between New Orleans, La., and Shreveport, 327 miles, but once the line enters Texas, a totally different condition is encountered. Between Shreveport and Dallas, 193 miles, the line crosses a rolling country with a succession of rises and falls, while between Dallas and El Paso, 646 miles, the country traversed ranges from rolling hills to a rugged mountain range. Dallas is 415 ft. above sea level, while the summit of the railway in the Davis mountains is 4,600 ft. A study of the adjusted tonnage ratings in the accompanying table will show that the Texas & Pacific can hardly be termed a flat railway.

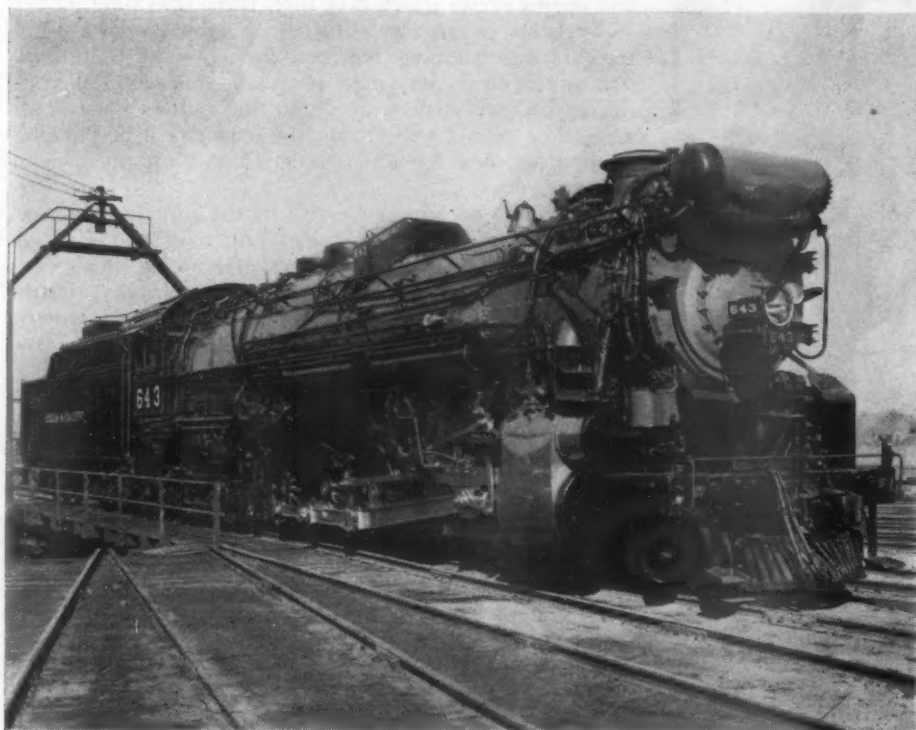
The T. & P. is one of the few roads in the country which has consistently increased the average speed of its freight trains during the war. In 1942, this average was 18.5 m. p. h., and in 1943 it was 18.6 m. p. h. Likewise miles per car per day increased from an average of 68.2 in 1942 to 77.9 in 1943. At the same time, empty car mileage decreased 4 per cent, and net tons per train increased 11 per cent (or 80 net tons). Gross ton-miles handled aggregated 13,444,240,000 in 1943, as compared with 11,958,019,000 in 1942. During the heavy traffic month of October, 1943, gross ton-miles increased 2.6 per cent as compared with October, 1942, while train-miles decreased 1.2 per cent, thus further demonstrating that the increased speed was not attained by sacrificing tonnage per train.

The main line of the T. & P., so far as the heavy traffic is concerned, extends between Texarkana and El Paso, via Marshall, a distance of 863 miles, all within the state of Texas. The busiest sections are between Dallas and Fort Worth, 31.5 miles, and between Longview and Texarkana, 89.6 miles. The Dallas-Fort Worth section is double-tracked and equipped with C. T. C., providing operation by signal indication in either direction. The Longview-Texarkana section handles not only the T. & P. main line traffic, but also serves as a "bridge" over which traffic is moved between the International-Great Northern and the Gulf Coast Lines of the Missouri Pacific System and the Missouri Pacific proper. Such traffic is very heavy at present, since it is augmented by a large movement of oil from South Texas to the East. This movement has been averaging about 400 cars per day.

In addition to an average of about 22 freight trains daily, five regularly scheduled passenger trains, usually consisting of more than one section, are operated over

this line in each direction daily. The Longview-Marshall section, 23 miles, is particularly busy, as it handles all the traffic mentioned above, as well as freight trains from or to the Louisiana main line of the T. & P. and one regularly scheduled passenger train daily in each direction, in addition. An average of 18 trains eastbound and 19 trains westbound are handled on the Longview-Marshall section daily. The Longview-Texarkana line is completely equipped with centralized traffic control between Willow Springs, four miles west of Longview, and Texarkana.

The Louisiana main line extends between Marshall, Texas, and New Orleans, La., 369.8 miles, via Shreveport, La. This section of the railway, in addition to an alternate line paralleling the main line between Shreveport and Cypress,



A Texas Type Locomotive on Both Freight and Passenger Trains Simplifies Operations



Oil Is an Important Commodity on the T. & P.

Texas & Pacific—Adjusted Tonnage Ratings

Between	Tons	
	Eastbound	Westbound
El Paso and Toya	3,365	2,800
Toya and Big Springs	4,430	4,180
Big Springs and Baird	3,840	3,840
Baird and Fort Worth	3,165	3,165
Fort Worth and Mineola	3,475	3,475
Mineola and Marshall	4,500	4,500
Marshall and Shreveport	5,775	5,775
Shreveport and New Orleans	6,500	6,500
Marshall and Texarkana	4,000	4,000

90.5 miles, also includes a number of branch lines in the sugar-cane territory, which are largely concerned with the handling of this crop, as will be explained later.

In addition to handling through oil trains from Longview to Texarkana, the T. & P. also originates some 35 cars of oil daily on the Eunice branch, between Bunkie, La., and Ville Platte, 20.6 miles. At Hawkins, Texas, 29 miles west of Longview and 98.5 miles east of Dallas, another oil field loads about 100 cars per day. A new oil field was developed last autumn at Midland, Texas, 307.3 miles west of Fort Worth, from which point between 150 to 175 cars per day of oil are now moving east to Texarkana.

Other special wartime traffic is supplied by airplane factories and numerous other military installations scattered along the railway between New Orleans and El Paso. As many as 22 troop trains have been handled in one day over the T. & P., in addition to a daily average of between 23 and 27 cars of troops on regular trains. The necessity for prompt handling of these military movements has presented numerous problems. For example, one large movement involving 277 passenger cars and 512 freight cars was scheduled by connecting lines to move in 37 trains. Because of the physical advantages of its low-grade Louisiana line, however, the T. & P. was able to consolidate this movement into 19 trains,

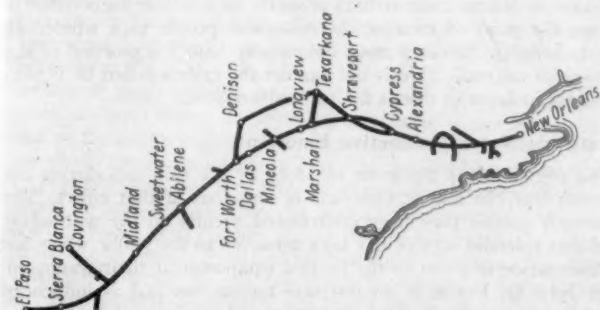
made up in such a manner that splitting them into smaller trains at the interchange points was a simple matter. The entire movement was handled without delay, and obviously the movement of 19 long trains did not disrupt operations anywhere nearly as much as 37 short trains would have done.

Meeting an Emergency

On another occasion, a movement for export suddenly developed at Shreveport that required 37 coal cars of 140,000-lb. capacity. A ship was to sail from New Orleans on the morning of the 17th and the superintendent of transportation did not receive notification of the impending shipment until 5 p. m. on the 14th. An immediate search was begun for the proper type of car, which is not found in great numbers in the Southwest. However, the requisite number of cars was located at various places on the T. & P. and on connections nearby, and started on their way to Shreveport. Sixteen of these were found in the vicinity of Fort Worth, and they left that point on a troop train on the evening of the 15th. They arrived at Shreveport at 12:10 a. m. on the 16th and, with the rest of the cars, were placed for loading at the shipper's siding. Loading was completed at 1 p. m., the cars were switched from the industry and the train started for New Orleans, 327 miles distant. It arrived in New Orleans at 7 o'clock the following morning, in ample time for trans-shipment of the lading to the ship, which was thus enabled to depart on schedule.

Performances of this character are made possible in no small degree by the development of the so-called Texas type (2-10-4) locomotive for use on both freight and passenger trains between Texarkana and El Paso. The railway owns 70 of these locomotives at the present time. These locomotives have a tractive effort of 84,600 lb. and a total weight of engine and tender in working condition of 739,166 lb. They are equipped with boosters, which raise the tractive effort 13,300 lb. to a total of 97,900 lb. They are high-speed locomotives. They are equipped with steam heat and signal lines for passenger train operation, yet they have sufficient power to handle heavy freight trains at high speeds, the normal running speed of freight trains on this section of the line being 60 m. p. h. Manifestly, the use of one type of engine simplifies the making up of trains, for the dispatcher and the yardmaster can figure on moving about the same number of cars on all through trains.

This Texas type power has lent itself to such efficient utilization and has done such good work that the T. & P. has been able to rent power of other types to connecting



The T. & P. Is Part of an Important Transcontinental Link

lines. These have been largely Santa Fe type locomotives of 67,700 lb. tractive effort, equipped with boosters to raise this to 79,000 lb. Between 12 and 15 of these are constantly in the service of other lines.

As an example of the speed with which freight is handled on regular schedules, a full tonnage train of 65 to 75 cars of California perishables, merchandise, packing house products and other high-class freight is made up in Fort Worth each night. The train leaves Fort Worth at 8 p. m.; picks up and sets out at Dallas; changes train and engine crews and cabooses at Mineola yard; picks up and sets out at Marshall, and arrives in Texarkana at 4 a. m. Despite this intermediate work, this train runs the 249 miles in eight hours, or at an average overall speed of better than 31 m. p. h.

Perishables Demand Speed

The fact that a large percentage of the T. & P. traffic today is made up of petroleum and its products and perishables has been largely responsible for the building up of the high-speed service. This railway handles about 6,500 carloads of California and Arizona lettuce alone, and a total of between 25,000 and 30,000 cars of California and Arizona perishables every year.

The broken grade line in Texas prevents the handling of heavy trains on that portion of the line, but a large locomotive can handle virtually any size train that it can start on the Louisiana line. Within the last few months, a train of 119 loaded and 17 empty cars, a total of 10,132 tons, made its regular schedule over this line with one Mikado locomotive without difficulty.

Arrangements have been worked out, not only to get trains over the road in fast time, but also to handle cars through terminals rapidly in order not to dissipate the benefits of fast road operations by yard delays. Oil trains are, of course, interchanged practically as units and spend only as much time in the interchange yard as is necessary to enable the train to be inspected, and engines, crews and cabooses changed. This system is also adhered to as closely as possible with all other traffic. The Fort Worth yard of the T. & P. pre-classifies cars for the S. P. at El Paso and for the M. P. at Texarkana and at Alexandria, La. This modern, car-retarder operated yard at Fort Worth is used for classification to the largest extent possible, in order to avoid delays at less well-equipped yards elsewhere on the system.

The Louisiana line of the T. & P. comprises a number of branches serving the sugar cane territory, as may be seen from the accompanying map. These branches produce little traffic except sugar cane and for some years they were not maintained to main-line standard. In fact, on the Thibidoux branch, train speeds were restricted to 10 to 12 m. p. h. Each harvest season some 8,000 cars of cane are handled in short hauls from the producing section to the cane mills. Formerly, about 1,200 open-top gondola cars, equipped with special racks, were used in this service and the cane movement was a "headache," the effects of which were felt over the entire railroad. However, the cane branches have been so improved, and in some cases so completely rehabilitated, as to permit the operation of larger engines on these lines, and this has resulted in an increase of nearly 100 per cent in the number of cars handled per cane train. As a result it has been possible to reduce by half the number of cars assigned specially to this service. This reduction was also aided, in a large measure, by the fact that the specially-equipped cane cars are now pooled, instead of being assigned to certain mills and plantations, as was previously the case.

Earthquake-Resistant Bridge

(Continued from page 233)

which, in turn, is in the signal circuit. This protection circuit is kept closed by a No. 19 wire which is attached to terminals on the pendulum and the pier, with enough slack to allow movement of the pendulum or pier up to $\frac{3}{4}$ in.

Any movement of the pier that is in excess of $\frac{3}{4}$ in., however, will break the wire, open the circuit, de-energize the relay and cause the signals to be set at stop.

As a further protection against movement of the piers or abutments and the superstructure, flexible stranded wires, which are also in the circuit through the pendulum and the relay, extend between terminals that are attached to the abutments and the ends of the girders. They are of such length that any relative movement between the girders and the abutment, more than one inch in excess of normal contraction, or any comparable relative lateral movement, will cause the wires to break, and, again, the relay will be de-energized.

Since this relay is in the signal circuit, when it is de-energized it causes the signals on either side of the bridge to be set at stop until the circuit on the bridge is restored. These signals are equipped with special markers which, in connection with time-table instructions, require that, before proceeding, train crews make a thorough examination of the structure, to assure themselves of its safety whenever a train is stopped by the signal on either side of it.

A special recording device also has been provided for recording movements of the piers, and these records show one movement of as much as $\frac{5}{8}$ in. since the alinement detector was installed in 1933.

Communication . . .

Too Busy With the Chores

To Get on the Picnic Wagon

CHATTANOOGA, TENN.

TO THE EDITOR:

Your editorial "Chicago versus U. S.—a Program For Subsidies," in your issue of July 22, is the most constructive general item to appear in favor of the American railways for a long, long time.

Subsidy is a hated word for an undesirable condition. But subsidy, in the common use of the term, is a misnomer when applied to the railroads' need for government aid in the immediate post-war period. What is that need and why? The need is for preparation to give a system of quick, mass transportation facilities for possible military use. The reason for this need is the great public demand for preparedness in event of a future attack upon any U. S. territory. The reason the railroads are in their present unpopular position is due to their refusal properly to appraise facts—that is to get the point of view of the American people as a whole. In short, John Q. Public is not in sympathy with the position of the American railroads. He is not against the railroads but he is particularly in favor of things the railroads oppose.

Gratitude Not a Productive Emotion

No one can deny the great job done by the railroads during the present war. In a way, everyone is conscious of that effort. The railroads realize they have contributed greatly to the war effort and that splendid service has been rendered to the public when due consideration is given to the limited equipment at their command. But John Q. Public is an intricate mechanism and is influenced largely by subconscious reactions to popular trends of thought.

The future looks black for the railroads unless they take the

lead in this drive for the utmost in preparedness. If the railroads will show the government the great military advantage of such a project they will gain roadways enabling a 25 to 40 per cent reduction in normal schedules with greatly reduced operating costs through grade and curve elimination, etc. About four months ago Henry Ford predicted "The railroads must go."

Twenty years ago Henry Ford said, in effect, "If the railroads are to survive they must eliminate grades and curves, use lightweight equipment and find some simpler motive power than the present cumbersome locomotives." Mr. Ford's last comment, that "The railroads must go" was prompted by a two-fold interest. Henry Ford wants personal progress but unquestionably he craves general progress more. Mr. Ford probably had in mind the great advantages that would accrue to his business through progress in all types of highway transportation as a natural result from the government program of highway and airway development. But there was a hidden second motive which he hoped would serve as a subtle sting to railroad executives with the idea of awakening them to the imperative need for quick, decisive and tremendous action. The painful fact remains that the U. S. A. can learn to do without the railroads if they are forced to do so. The process would be gradual.

Useless to Buck the Tide

The attitude of the American railroads is much like that of a well-meaning child who was too busy with his chores to get on the picnic wagon. His feelings were hurt because mamma or brother didn't look him up. The railroads have been too busy with the war effort to get on the picnic wagon of post-war progress and their feelings are hurt because no one has grabbed them by the seat of the pants and pulled them aboard. They have depended on their powerful Washington lobby—of horse and buggy days—to stop the picnic wagon and wait for them to climb aboard. But this picnic wagon is amphibious and is being raised by the great tide of public thought and power. The railroads must get the right perspective and cease the futile fight against this great forward movement of which the railroads should be the leading part.

The Pullman Company elects to leave the "service" field because they vision the end of de luxe service for railroad passenger traffic. They see the rapidly approaching era of the "air sleeper"—as accurately described in an article, with graphic illustrations in the July issue of Architectural Forum, pages 91-96—and leave the service problem of long-haul passengers up to the railroads, to be solved as they did the Express Company complex. The largest equipment manufacturer in his field answered my query about the future of the railroads as follows: "I do not completely agree with Henry Ford in that the railroads must go; however, I do feel that between plane, bus and automobile competition, the railroads within the next few years will be losing a lot of their passenger travel."

Passenger business is the greatest freight business magnet. Freight business follows popular through passenger business as a natural sequence. Passenger service is the "display window" or the "show case" of the railroad. By it their total service is appraised. It is like the "prevues" of coming attractions at the movies and worth many times more than any other form of publicity or advertising.

What is the purpose of the super-highways? Why is the federal government interested in airway development? What is the attitude of the American people to these developments and why? The super-highways are intended for possible military emergency. They are planned for the shortest possible routes between parts of the nation which might demand quick mass military movement. These highways were actually planned during the early stages of the war—before the memories of the railroad turmoil of World War I had been erased by the great railroad contribution to the success of World War II.

The federal government is interested in airway developments as the most practical means of stimulating greater achievements in this sphere for military protection. As to the attitude of the American people to these developments, just stop any intelligent-looking John Q. Public and ask him why he favors these developments. In effect, he will tell you that he doesn't want another "Pearl Harbor" and will then confide in you that he would like to take the family out in the old Ford and try this super-highway. He will tell you that he hopes to ride one of the big airplanes some day. If you want your feelings hurt ask him how he feels about the railroads.

The public minds have been so regimented through propaganda

that it will take propaganda—or publicity that John Q. Public will understand—from the railroads in great gobs to change their trend of thought. After all, the public doesn't give a tinker's dam about the railroads or the highways or the airways except as it benefits one John Q. Public through his immediate use. This may not be the right attitude but that is it and as such it must be dealt with.

Even the railway employees don't understand and don't appreciate these facts because they have been fought as a union rather than educated—or propagandized—as individuals. The public looks upon railroads as a great, greedy octopus—reeking in the wealth filched from high freight rates. Why? Because no one has taken the trouble to sell them any other idea. The complacent railroads have left it in the hands of their outmoded Washington lobby.

Railroads Leaders in Super-Preparedness

The American railroads can best serve the nation by a comprehensive program of leadership in the great preparedness drive. They do not need a subsidy. They need enough billions of federal money to make the roadway of all through traffic lines as free from curves and grades as American engineers can make them and still perform their present community service. Double-track additions—four track-traffic lanes—more Moffat tunnels—speed and safety and more by-passed medium size towns and better terminal facilities in larger towns.

The federal government can be sold on the importance of these constructive changes, under sponsorship of super-preparedness, and in addition permit the railroads to use a liberal amount of present profits for the purchase of the most modern equipment, if the right men head a high-powered drive to such an end. You know, in pioneer days a courageous man frequently jumped a runaway horse in order to stop the wagon and save the entire equipment. The railroads may have to make that courageous leap to the back of this great horse of government subsidy in order to save the nation from bankruptcy.

The secondary reason for super-highway construction and improvement and extended airport facilities is to provide work for the unemployed. That appeals directly to John Q. Public and, because it is a popular trend of thought, it appeals to the politician. Jobs mean votes—and votes are the prime factor to the politician. Therefore the American railroads almost hold the key to abundance in these United States if they can but so organize and, if they will act quickly enough, to show to the President—whether he be Dewey or Roosevelt—to the Congress and to the great public, how much more important it is to develop the through railroad traffic lines first (without belittling highway or airway construction,—just cite, in glowing terms, the great war job of the American railroads. Have every mother's son shouting the virtues of the great American railroads) as a means of gaining national security by meeting possible military transportation needs and as a farther means of developing the greatest number of post-war jobs.

The Movies Know How to Handle Folks

Such a job is worthy of the best brains in the nation. Such a campaign may require that it's cost be underwritten by a group of the larger railroads in order to get quick action. But, it will pay dividends! The American railroads have many men capable of directing such a job. There is one of them located in the state in which I am writing. Any large railroad can supply the engineer to plan this great construction undertaking that will create and attract more jobs than any politician can dream of. But the public relations department head, who will be charged with responsibility of selling the idea to the President and the Congress of the United States—and to the people—and to the railway employees, as individuals—is something else. Perhaps a man like Donald M. Nelson—maybe a James A. Farley—or a Wendell Willkie. It is a tremendous job and must be done quickly.

Some 20 years ago the motion picture industry faced a great crisis and met it through the employment of Will H. Hays to head an unique public relations department with a personal salary in excess of a hundred thousand dollars. It has paid dividends. The motion picture industry had the audacity to grab Wendell Willkie at the close of his presidential campaign four years ago.

FRANK DOWLER, JR.

Railroads-in-War News

New Haven Battalion First in Normandy

Three other units quickly followed it to get French railways going

A railway operating battalion, sponsored by the New York, New Haven & Hartford was the first railroad unit of the Army's Transportation Corps to land in France. It arrived on "D" day plus 10. Three other railway detachments followed at intervals within the next two days. The units immediately headed for the French railways to help army engineer construction battalions in repairing the tracks.

The battalion now operates mainly out of the yards at Cherbourg. They are cleaning and repairing the yards at the Cherbourg station and running a work train daily between Cherbourg and Carentan. Not many of the tracks were damaged by the Germans before they left, but mines were found everywhere. Before work could begin, demolition detachments from the engineers had to demine the area.

Regular Passenger Service—A regular passenger train, operated by crews from this battalion, makes four complete round-trips each day between Carentan and Cherbourg. The first run was made on July 10 with Major General Frank S. Ross, chief of transportation in this theater, and several members of his staff as passengers. The engineers, having cleared the tracks of debris and mines, moved on leaving the maintenance of all tracks between Cher-

bourg and Carentan to the railway operating battalion.

Work trains leave the yards at Carentan every morning to go forward to work on track clearance. They have progressed far enough in these operations to work between the German lines and American artillery positions. In the yards at Carentan members of the unit are also at work cleaning up the yards. Many cars were smashed by the retreating Germans and had to be cleared to permit full use of the yards.

At one time during salvage operations German artillery shelled the yards for 35 minutes. The detachment, under the command of Major Edgar B. Sweet of New Haven, Conn., continued to work disregarding the shelling and personal danger.

As soon as the Nazi army had been cleared out of Cherbourg, French railway employees returned to work. They came into the yards, removed their coats, rolled up their sleeves and went to work. Nobody had requested help from the civilians, but they found enough to do. The GI's just added them to their ranks.

Demolition Incomplete—The French told of a plan the German soldiers had to destroy the locomotives in the yards. A track which sloped into the water was constructed. The Nazis planned to build up steam in the locomotives and run them into the harbor. On hitting the cold water the hot steaming engines would explode leaving only scattered broken parts for the Allied armies. Bombings by the air forces destroyed the tracks, but the soldiers found dozens of serviceable locomotives. Fifteen of the engines had been brought to France by the United States Army in the last war,

(Continued on page 242)

RRs Can Take More Westbound Traffic

Col. Johnson is confident they will meet test when war load shifts

Possible changes in the burden of traffic placed upon the railroads by the military services as a result of an early end to the European war and an intensification of the conflict in the Pacific were under discussion at the regular meeting in Washington, D. C., July 28 of the board of directors of the Association of American Railroads. Col. J. Monroe Johnson, director of the Office of Defense Transportation, participated in the discussion, and he said, after the meeting, that he had no doubt that the railroads would be able to meet the situation.

If the feeling that now prevails in many quarters that Germany will soon collapse proves well founded, he observed, the railroads will face in the early future a large increase in westbound freight, but he expressed confidence that they would be able to accommodate themselves to the changed conditions in the same way that they have proved equal to each additional burden put upon them as war production has developed and overseas movements have expanded. At this time, he added, the railroads are handling with relative ease a traffic volume equal in ton-miles to the peak of last October, and it is still growing.

The current manpower and equipment positions of the railroads also were under discussion at the meeting, and a feeling prevailed that, except in certain special situations, the labor position had shown some improvement, with a net increase of about 65,000 employees in the past 19 weeks, although still more would be required to meet all needs. The freight car program for the year 1944 as finally shaken down by the War Production Board would result in the production of about 52,000 cars, if schedules were met, it was stated, although to do so would require the construction of 30,000 cars in the second half of the year, or a substantial increase over the results achieved in the first half.

British Railways Pre-Invasion Records Set New High

In the two months immediately preceding "D" day, British railways moved nearly 25,000 special trains for troops, ammunition and equipment, T. D. Slattery, general traffic manager, Associated British & Irish Railways, in New York, has announced. While not all trains were directly connected with "D" day itself, of the many thousands that were, 1,000 carried 230,000 troops.



Nazi Bridge Demolition on a Branch Line in Normandy

Another 800 special trains, with more than 30,000 cars, carried supplies and heavy equipment, while regular freight trains carried more than 6,000 cars.

During the three weeks prior to June 6, all wartime records were smashed. Nearly 4,000 special trains were run within one week, and the three weeks' total was 9,679. Few regular passenger trains were suspended despite the heavy movement of freight.

O. D. T. Staff Changes

Appointment of Clair M. Roddewig as general counsel of the Office of Defense Transportation, effective July 29, has been announced by Director Johnson. Mr. Roddewig succeeds as general counsel Jack Garrett Scott, who resigned April 6. Since that date Frank Perrin has been acting general counsel.

Mr. Roddewig was born in Nebraska in 1903, practiced law in South Dakota, was successively assistant attorney general and attorney general of that state, and joined the legal staff of the Interstate Commerce Commission in Minneapolis, Minn., in 1939, as district field attorney. He came to the O. D. T. in 1942 as attorney in charge of local transport matters, and became assistant general counsel in October, 1943.

Mr. Perrin, who now becomes assistant general counsel of the O. D. T., is a native of Stone Bluff, Ind. Before entering government service he was employed by the Illinois Central and Nickel Plate. He began work with the I. C. C. in 1939 in the tariff section of the Bureau of Motor Carriers. From March, 1943, he was special examiner in the Bureau of Service until his appointment as acting general counsel of the O. D. T.

The resignation of A. R. Mahaney as assistant director of the O. D. T. Division of Traffic Movement, effective August 1, has been announced by Director Johnson. Mr. Mahaney was appointed to this position July 15, 1942, after having served O. D. T. as chief of the rail traffic flow unit. He is

returning to his civilian post as assistant superintendent of freight transportation of the Pennsylvania.

The present chief of the rail traffic flow unit, Paul B. Christian, will continue in that position, it was stated at the same time. He was appointed to this post in March, after having come to the O. D. T. as a transportation specialist, following service with the Railroad Retirement Board and with the Southern.

A. V. James has been appointed assistant associate director in charge of the Mechanical Section at the Chicago regional office. Mr. James, the announcement said, "has had railroad mechanical experience on the Denver & Rio Grande Western and Union Pacific." He succeeds J. E. Friend, who resigned.

N. Y. C. Booklet Gives Behind Scenes on War Traffic

A close-up account of the manner in which railroads and railroaders are handling today's record war traffic is told in a 20-page booklet called "Behind the Scenes of a Railroad at War," just published by the New York Central.

Filled with information gathered "out on the line" and double-checked by the System's operating men, the booklet is designed to give authentic, up-to-the-minute railroad data.

There are eight "cutaway" or "phantom" pictures, drawing the reader inside sleeping and cooking cars of a troop train, the caboose of a mile-long freight train, the cab of one of the railroad's newest locomotives, a dining car kitchen, an electric signal tower, the mail car on the 20th Century

Limited, a ward car on an Army hospital train, and the upper and lower levels, main concourse, and U. S. O. servicemen's lounge in Grand Central Terminal, New York.

All material presented herein has appeared before in advertisement form, but so great has been the demand for reprints that the railroad decided to compile the present booklet. Copies may be secured by writing to New York Central, Room 1221, 466 Lexington avenue, New York 17, N. Y.

Soldier Railroaders Train at Harrisburg

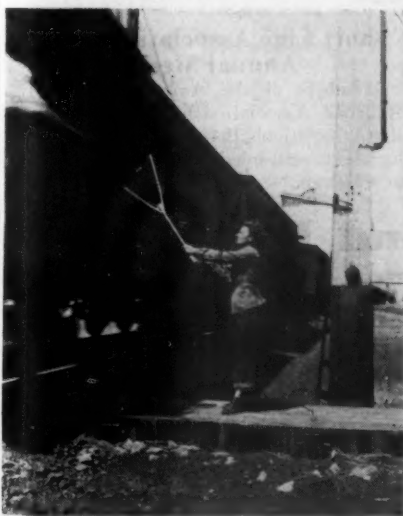
The 746th Railway Operating Battalion of the Military Railway Service, Transportation Corps, has been located at Harrisburg Pa., to receive practical railroad training through the co-operation of the Pennsylvania.

The battalion, consisting of approximately 1,300 men and 40 officers, has completed its basic military training at Camp Plauche, La. Approximately 85 per cent of the troops have previous railway experience and many of them are former Pennsylvanians. The 746th is the first of the railway battalions to receive training in the operation of electrified as well as steam railroads.

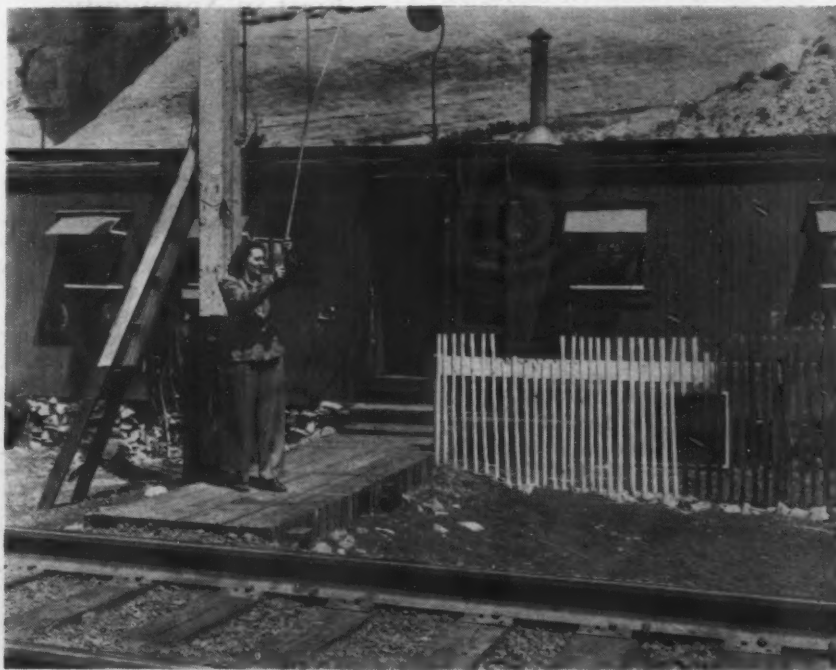
The battalion's commanding officer is Lt. Col. W. C. Pruett, formerly superintendent of the Missouri-Kansas-Texas at Wichita Falls, Tex. His "assistant superintendent" is Captain James H. Oliver, of Montgomery, Ala. The unit has its barracks at Harrisburg Academy, in peace times a private school.

Several officers and enlisted men who have served with operating battalions over-

* * * *



Denver & Rio Grande Western Photos



Woman Is Lone Telegrapher in Isolated Ruby Canyon

Mrs. Ella M. Davis, who became a student telegrapher on the D. & R. G. W., at Thompson, Utah, in February, and served briefly at Mounds, Utah, and Minturn, Colo., before taking over her husband's work at this telegraph station—Utaline, Ruby, Canyon, Colo.—thus relieving him for more critical work at another point, is here shown handing up a train order to the conductor of a freight train. Regular trains do not stop at this point, and food and drinking water must be brought in by section workers. Though she works the regular day shift, Mrs. Davis is "on call" to receive and transmit orders at all hours. The box car, shown above, is her home. It is just four yards from the through tracks, and beyond them is the Colorado river. A sheer cliff rises at the rear of the station.

seas are in the group. Typical among them is Technical Sergeant Carlton Pool, of Brooklyn, N. Y., who was in a lend-lease unit attached to Royal Engineers of the Fifth Army. He helped operate freight trains with Diesels from El Alamein to Tobruk in Montgomery's famous offensive. He reports Diesels, nicknamed "iron camels," were considered better for desert warfare than steam locomotives; having no exhaust, they could be perfectly camouflaged against attack from the air.

Sergeant Pool further observed that he could not get used to British railroad language, in which a whistle is a "hooter" and the throttle is a "regulator."

Special Trains for Candidates

By an authorization issued July 29, the Office of Defense Transportation has excepted from the provisions of its General Order No. 24, relating to the operation of special passenger trains, such special trains, sections or cars as may be required for the exclusive use of candidates "duly nominated" for the office of President or Vice-President of the United States "by any political party." The general permit is effective July 30 to November 10.

Pelmar Succeeds Curren with O. D. T.

Alfred R. Pelmar, deputy Eastern director of the O. D. T., has succeeded W. G. Curren, Eastern director, with headquarters at New York, whose resignation to assume the duties of vice-president in charge of operation and maintenance of the Reading was reported in last week's *Railway Age*.

Mr. Pelmar went to the O. D. T. on August 1, 1942, from the Chicago & North Western, with which company he had spent his entire railroad career. He entered the service of that railroad as telegrapher and agent in 1895, and after holding various positions eventually became general superintendent of freight terminals. He was assistant director in the office of the Coordinator of Transportation in Washington in 1934 and 1935, returning to Chicago to continue as general superintendent of freight terminals with the North Western.

Asphalt Tank Cars Diverted to Crude Oil Haulage

At the request of Ralph K. Davies, deputy petroleum administrator, the Office of Defense Transportation has taken steps to divert 2,000 tank cars from the movement of asphalt for civilian uses to the movement of crude petroleum from the Gulf coast fields to refineries in the Midwest and on the Atlantic seaboard, it was disclosed last week. The federal Public Roads Administration at the same time informed state highway officers of the reduction in asphalt deliveries that would result and undertook to have arrangements made with asphalt shippers to concentrate deliveries at points where road repairs are most needed.

"Sudden shifting of asphalt tank cars to military service is only one of a series of similar measures taken during the last several weeks to meet the sudden spurt in military requirements for petroleum products," Mr. Davies said. "If military action in the European theater continues at the present or at an accelerated pace, war requirements

may mount even higher, in which case further inroads into civilian transportation facilities as well as civilian supply may have to be made."

Tank car shipments of crude oil and petroleum products into the Atlantic seaboard territory continued at about the rate maintained in recent weeks, averaging 718,052 barrels daily in the week ended July 22.

Regular Train Service in Normandy

Regularly scheduled service on French railways in Normandy—operated by the U. S. Military Railway Service—was begun less than a month after the landing of our invasion troops. Equipment used on the first scheduled train consisted of a steam locomotive and tender, an empty freight car, and two coaches. (The purpose of the freight car was to catch the effect of a mine which the locomotive might detonate.) Passengers on the first scheduled train included Major General Frank S. Ross (chief of transportation, E. T. O.); Brigadier General E. G. Plank (commanding the communications zone); Brigadier General C. L. Burpee (commanding the M. R. S. in France); Lt. Col. L. B. Yost (chief of land operations, advanced section, T. C.), and Lt. Col. F. L. King (superintendent of equipment, M. R. S.).

The train and engine crew from the M. R. S. was comprised as follows: Sergeant Charles M. Reisdorf (B. & O.); Sergeant Kenneth C. Kieffer (Milw.); Pfc. C. E. Trott (P. R. R.), and Sergeant R. J. Booth (N. Y. Central).

New Haven Battalion First in Normandy

(Continued from page 240)

and had been left there after the war. They were found, still in good condition, bearing the insignia of the U. S. Army. Also found in the yards were engines and other railroad equipment from railroads in France, Italy, Germany, Austria and England.

The battalion arrived in the United Kingdom a year ago.

Activated in January, 1943, the battalion is composed of men from a great many American railroads. The New York, New Haven & Hartford which sponsored the

unit, furnished most of the officer personnel and a considerable number of enlisted men. The outfit received its technical training on the Pennsylvania at Fort Wayne, Ind.

While stationed at Fort Wayne, the boys aided in rescue work during the floods in the spring of 1943. Pfc. Clinton H. Dawley, Jr., Pittsfield, Mass., and Estill L. Peel, Slater, Mo., received the Soldier's Medal from General Ross for their rescue of a drowning woman. Pfc. Arnold L. Huber, Yankton, S. D., was commended by the General for his activities in the rescue.

They Railroaded in Britain—While on duty in Britain, the battalion worked to prepare the military railway services for continental operations. Orders for working detachments split the organization. The detachments covered the island while on dozens of railroading tasks. They worked at switching jobs around depots, as dispatchers, crane operators, telephone switchboard operators, tractor drivers, and shopmen.

Personnel from Company A, maintenance of way company, supervised as much as 52 miles of trackage, and constructed 1800 feet of storage track a day for two weeks. Company B men worked on car assembly lines. One group of men from the company aided in the assembly of locomotives. Another detachment worked with English civilian railroadmen in the conversion of railway coaches to ambulance trains. Thirty men from the unit assembled one type of freight car in only 47 man-hours of time. No other railway battalion in the service has since equalled that accomplishment.

On the continent now, they work harder and longer than they ever have before. The normal working day lasts 20 hours. Nobody complains despite the weariness; too much must be done before they can relax. They have no quarters for sleeping and no mess hall. There isn't enough time for that either. Men sleep in foxholes and eat K rations twice a day. One hot meal a day is available, but that rarely is anything but beans.

Short Line Association Cancels Annual Meeting

Members of the American Short Line Railroad Association have voted to cancel the Association's 1944 annual meeting which had been scheduled for October 25 and 26 at Chicago.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since July 22, and which are of interest to railroads:

Cable and Wire—All component parts going into completed wire and cable will now be handled by the Copper division of the W. P. B., which has been made a claimant agency. The supply of components is tight, but additional capacity for some elements may soon be provided, and delivery of others may be assured by direction. Based on the present order pattern, third-quarter requirements for copper wire and cable will exceed the productive capacity of the industry. Tight supplies of materials and facilities have necessitated directives to all copper wire mill warehouses and all copper wire mills, establishing a quota limiting the shipments on "V-3" orders to consumers and dealers operating under CMPR-9.

Canadian Lumber—Arrangements have been completed with the Canadian Timber Controller for handling lumber exported to and imported from Canada under L-335. The Canadian Division of W. P. B. is the claimant agency representing Canadian users of lumber exported from the United States. Purchase orders, if approved by the Canadian Timber Controller, will not be certified by the individual consumer, as is the case with domestic purchase orders, but by the Canadian Division in Ottawa. The division will also assign preference ratings. U. S. mills and distributors will accept Canadian purchase orders, properly certified and rated for delivery in Canada, on a par with other orders.

Lumber imports from Canada to the U. S. will be subject to Canadian export permit system, as heretofore, however, the Canadian supplier or exporter will certify to the Canadian Timber Controller that he has received proper certification from his U. S. customer, as required in L-335. Likewise, U. S. purchases of Canadian

lumber on which permits have been granted must furnish the Canadian exporter with proper certifications (given in L-335) before receiving the lumber.

Construction Equipment—Reflecting an easing in the supply situation, restrictions have been removed on the sale of 26 types of construction equipment, ranging from bulldozers to rock drilling machines and pile hammers and other changes have been made to decrease paper work in the administration of Order L-192, which controls the manufacture and distribution of construction machinery and equipment and repair parts. One item, carrying and hauling scrapers with more than 15 cubic feet capacity, may now be manufactured again, and effective August 3, items listed in Schedule B may be sold only on orders rated AA-5 or better. All restrictions on the distribution of repair parts for B items have been removed since the supply of these parts is reported adequate.

Damaged Stoves—The rationing provisions governing transfers of damaged stoves have been completely revised. Insurers, carriers, adjusters, and salvagers may acquire damaged stoves certificate-free, but they must, within five days, report the transaction to the O. P. A. district office, and they may sell the stoves in the same manner as dealers or distributors. They may also sell damaged stoves certificate-free and without approval of their local War Price and Rationing Boards, to dealers, distributors and manufacturers.

Hardware—Additional quantities of zinc will be available for hardware because of an improvement in the general zinc supply. Pending adjustments in L-236 to meet this change in the supply situation, zinc will be released to the industry on appeal. A return to zinc will increase the production of items for which cast iron is now being used.

Copper base alloy rods and extruded shapes are in short supply because of manpower shortages in brass mills and heavy increases in military requirements, and fourth-quarter allotments for hardware probably will be less than those for the third quarter. As a result, the output of cylinders and padlocks probably will be curtailed.

Internal Combustion Engines—Purchasers of internal combustion engines hereafter will be required to submit full data as to their contemplated use. Unless purchase orders, already placed, and future orders are properly identified, W. P. B. may be compelled to postpone delivery by the manufacturer or remove the orders entirely from the manufacturers' shipping schedule, officials said.

Motor Vehicles—A new simplified application form for use in acquiring new commercial motor vehicles, designed to expedite action on applications and to reduce the information required from motor vehicle operators, has been announced by the O. D. T. These forms (ODT-663) replace the old application forms (WPB-663). While the old forms may be used until September 1, O. D. T. prefers that the new forms be used now so as to speed up action on applications.

Office Furniture—No large-scale production of metal office furniture can be permitted until the necessary facilities, materials and manpower are no longer required for war production, according to the W. P. B. Emphasis must continue to be placed on military production, however, under some conditions and in certain areas where materials, power and facilities are available and where no interference with war production will result, the resumption of civilian production will be permitted, WPB executives said.

Rails and Track Accessories—National emergency specifications for steel products, contained in Schedule 7 of Limitation Order L-211, have been modified to permit the use of copper, subject to approval of the Copper division, in the production of steel tie plates and spikes. At the same time, the order permits the delivery and acceptance of such plates and spikes. This action was taken because there is available a large amount of copper scrap, containing from 10 to 20 per cent copper, that can be used for the manufacture of these items, officials explained.

At the same time the order was modified to permit five-hour cooling control for rails of less than 100 lb. per yard. This change is made to conform the order to A. R. E. A. and A. S. T. M. specifications. These were recently

amended to permit reduction of the minimum cooling period for controlled cooled rail from ten to five hours.

Rubber Tires—To avert a shortage of heavy-duty military tires, which Army officers said might have the effect of modifying strategic plans by overseas commanders, and which consequently might slow up American offensives and prolong the war, there will be a sharp reduction in the quantity of heavy truck and bus tires that are to be made available for essential civilian transportation in this country during the next two months. This announcement came after the full board of W. P. B. reviewed the entire heavy tire situation and agreed that the Army's requirements for heavy tires must be met at all costs, even though that involves serious risks in the field of absolutely essential civilian transportation.

This means that the O. D. T. supplies of replacement tires will be reduced from the estimated requirements of 495,000 to between 190,000 and 230,000 for the third quarter, the exact quantity depending on the extent to which tires are used for replacement instead of new equipment. Consequently, tires available for bus and truck use will be sharply curtailed and W. P. B. is calling upon all shippers and others concerned with the bus and trucking situation to reduce their requirements for transportation wherever possible to meet this situation.

Signal and Alarm Equipment—Restrictions on the distribution of fire protective, signal and alarm equipment, and on the metals that may be used in their manufacture have been relaxed by the amendment of L-39. The use of copper and copper base alloys are permitted for specified parts of equipment, chief among which are hose line fittings and fire hose couplings in sizes other than 1½ in. and 2½ in.

This return to copper and copper base alloy is permitted chiefly because of the shortage of malleable iron castings, W. P. B. officials said. At the same time, these substitutions will permit the filling of essential orders which hitherto could be filled only by appeals from restrictions on the use of copper and copper base alloys. The substitutions will also result in a more satisfactory product and effect substantial savings in manpower, officials explained.

Signal and alarm equipment costing less than \$200 (formerly \$50) is now exempt from restrictions on sale and installation. More costly systems may be installed only to fill military orders and those orders which are authorized by W. P. B. either through approval of WPB Form-1319 or through approval of construction projects (Form GA-1456) where this equipment has been specifically requested.

Steel—Persons acting merely as brokers on sales of steel, without maintaining regular warehouse location, are not to be classed as "distributors" according to new amendments to Orders M-21-b-1 and M-21-b-2. Certain features of the orders are clarified, and the restrictions formerly applicable to the purchase of alloy steel plates, tubings and hot rolled sheets have been removed. Distributors, however, are still limited in their purchases of these products in carbon steel grade.

Prices

Jobber and retailer mark-ups on ponderosa pine plywood have been restored, by Amendment to 2RMPPR-13, to the higher levels at which they had been fixed prior to May 11, 1944, when this species of plywood was brought under the coverage of the Douglas fir plywood regulation. Jobbers' mark-ups—now 20 and 25 per cent—will be 30 and 40 per cent respectively for large and small sales.

Klamath Falls, Ore., is established as the basing point for freight rates for delivered prices on direct-mill sales of ponderosa pine plywood, and for determining the freight element in the prices at all other levels. O. P. A. said this basing point is necessary in order to establish uniform maximum prices at distribution levels.

Bituminous Coal—Ceiling prices of bituminous coal from mines in Producing District No. 7, comprising southern West Virginia and part of Virginia, have been revised by the O. P. A. in a move to simplify price control in this field. Amendment No. 111 to MPR-120, which is effective August 5, covers one of the major coal producing districts in the country. The low volatile rail schedule is left mainly unchanged, with the principal revision being a readjustment of ceilings for one size group so

as to assure a more adequate supply of the larger lump coals.

Locomotive fuel ceilings, for both low and high volatile coals, are now made specific instead of being calculated by additions to former minimum prices. The high volatile rail schedule is clarified by a statement that the ceilings apply to shipments to all destinations, whereas a minimum price schedule, which applied only to lake shipments, was utilized heretofore for the determination of maximum prices. Some size groups are consolidated and a further simplification for the district schedule as a whole is provided by the incorporation of specific descriptions of all size group numbers.

Preservative Treatment of Forest Products—Several minor price changes together with corrections and changes of a technical nature have been made in Amendment No. 1 to MPR 491, the regulation covering the pressure preservative treatment of forest products. The changes, effective July 24, include one that provides a 10 per cent addition for treated lumber and switch ties on sales of 5,000-10,000 f. b. m. and 25 per cent on sales of less than 5,000 f. b. m. For treated cross ties, it allows an additional charge of 10 per cent on sales of 125-250 ties and a 25 per cent addition on sales of less than 125 ties. The original regulation allowed a percentage mark-up for small-quantity sales of treated poles and other round material, but inadvertently omitted mark-ups for lumber, switch ties and cross ties.

Incorporated in the regulation for the first time is a provision for an addition of 12½ per cent of the cubic feet ceiling prices for piles 70 and 75 ft. in length and 25 per cent for piles longer than 75 ft. if the piles are shipped from unsold stock that has been stored for 30 days or more. This provision is similar to one previously established for poles with the same length specifications.

Another change incorporates in the regulation prices and charges already granted by O. P. A. to individual processors upon application and now makes them uniform and applicable to all processors. These charges affect the pricing of the treatment of tie plugs, handling, roofing, boring, incising, etc.

This action also provides that any pressure treating plant that during 1943 did 75 per cent or more of its treating business as "T. S. O. business" (treating service only) at a flat average price regardless of length of retort time and without extra charges for handling, may apply to the O. P. A. Lumber Branch, for establishment of a flat average price.

Softwood Lumber—Increases in existing ceiling prices at the mill level for six species of softwood lumber are provided in 3-RMPR-219 as amended. The prices of No. 3 Common and No. 4 Common rough, dry, white pine boards are increased \$5 and \$4 per M. f. b. m. respectively, while round-edge pine dry prices are increased \$4; the prices of all grades and sizes of rough spruce, Norway and Jack pine are increased \$2.50 per M. f. b. m. and the prices for all sizes and grades of rough hemlock are increased \$2.

The deduction of \$2 per M. f. b. m. from dry prices for white pine lumber shipped green has been increased to \$3 and is now made applicable to round-edge. The milling charges applicable to white pine have been increased an average of \$1 and the charges applicable to other species covered by the regulation are raised to the level of those for white pine.

The increases, O. P. A. said, will enable all but the marginal producers to cover costs, and will assure continued production of lumber items essential to the war program.

Vitrified Clay Products—An increase of 11.4 per cent in manufacturers' present maximum prices of vitrified clay sewer pipe and allied products produced in Iowa, Minnesota, North and South Dakota, and western Wisconsin, is provided by Amendment No. 4 to RMPR-206 and Amendment No. 44 to MPR-188. Effective July 24, the manufacturers' increase may be passed on by jobbers and dealers in the form of actual dollars-and-cents increases resulting to them from the adjusted producers' ceilings.

Wastepaper—Ceiling prices for ten basic grades of wastepaper have been increased \$2 to \$5 a ton in a move to stimulate greater collections of this vitally needed commodity and encourage dealers to pack wastepaper properly for mill consumption.

GENERAL NEWS

Dominion's Railway Employees Win Raise

Asked for 23 cents more per hour, and Labor Board awards 6 cents

The Dominion War Labor Board at Ottawa on July 31, announced its finding and direction on an application for increases in basic wage rates put forward jointly by eighteen unions of Canadian railway employees.

The decision of the Board is summed up in the following terms: "We are of the opinion that following the broad and liberal interpretation which has been given by this Board to *Section 25 of Order in Council P.C. 5963*, all employees represented in this application are entitled as and from the date of said application, namely September 15, 1943, to increases in their basic wage rates as follows:

1. Six cents per hour to all hourly-paid employees;
2. Forty-eight cents per day to all daily-paid employees;
3. \$2.88 per week to all weekly-paid employees;
4. \$12.48 per month to all monthly-paid employees."

Wanted 23c More Per Hour—The increases requested by the unions were that effective September, 1943, all existing basic wage rates be increased in all classes of service to the extent necessary to equalize with rates paid for comparable service in the Eastern United States, plus the amount which such rates were increased as a result of negotiations resulting in the U. S. increases at the beginning of 1944; and that all basic wages be increased 23 cents per hour.

The eighteen organizations affected are: Brotherhood of Locomotive Engineers; Brotherhood of Locomotive Firemen & Enginemen; Order of Railway Conductors; Brotherhood of Railroad Trainmen; Order of Railroad Telegraphers; Commercial Telegraphers' Union; Brotherhood of Railway & Steamship Clerks, Freight Handlers, Express & Station Employees; Brotherhood of Railway Carmen of America; Brotherhood of Maintenance of Way Employees; International Association of Machinists; International Brotherhood of Boilermakers, Iron Ship Builders & Helpers of America; Sheet Metal Workers' International Association; International Moulders' Union of North America; United Association of Journeymen Plumbers & Steamfitters of the United States and Canada; International Brotherhood of Blacksmiths, Drop Forgers & Helpers; International Brother-

hood of Firemen & Oilers; International Brotherhood of Electrical Workers; Brotherhood of Railroad Signalmen.

U. S. Standards Not Applied—The railroads involved are: Canadian National and subsidiaries; Canadian Pacific and subsidiaries; Dominion Atlantic; Quebec Central; Esquimalt & Nanaimo; Northern Alberta; Algoma Central & Hudson Bay; Essex Terminal; Pacific Great Eastern; Sydney & Louisburg; Temiscouata; Temiskeming & Northern Ontario; Toronto, Hamilton & Buffalo; and Toronto Terminal.

In giving its decision the Board disallowed the contention of the unions that Canadian railroad wages should be equalized with rates in the United States. The Board pointed out that economic stabilization policies have introduced differences between American and Canadian conditions. The Board based its decision on an extended investigation of wages paid to like classes of employees in other Canadian industries.

Revised Report on Temperature Control Services

The cost of furnishing protective services (i.e., temperature control services) to perishable freight against cold has been determined and reasonable charges for such services recommended in a revised report proposed to the Interstate Commerce Commission by Examiner F. L. Sharp after further hearing in the No. 20769 proceeding. The further hearing came after submission by Examiner Sharp of a previous report, noted in the *Railway Age* of August 14, 1943, which, the examiner says, should now be discarded.

In addition to his recommendations as to costs and charges, the examiner would have the commission find "unjust and unreasonable" the failure of carriers in the East to provide carriers' protective service in the territory served by them. Also he would find "reasonable" the demand of Pacific-Northwest apple and pear shippers for carriers' protective service based upon temperature within the car. Another recommendation is that a related complaint case (No. 28375) be dismissed.

The protective services involved are provided for under the rules of section 5 of the Perishable Protective Tariff. The proposed report undertakes to recommend for the various elements of service a scale of charges based on costs. The cost figures cover the 1937-1938 heater season, and the carriers put the total at \$1,463,225.24. The examiner revised the figure downward to \$1,098,337.53 and then proceeded to distribute that amount among the services performed. Then came the further breakdown into the report's recommended "maximum reasonable" charges "per car" or "per heater period of 24 hours" under section 5's various rules.

Tire Shortage Hits Big Truck Operators

Large sizes are so scarce old certificates are canceled and priorities set up

In an "emergency survey" report to the director of the Office of Defense Transportation, Guy A. Richardson, O. D. T. assistant director in charge of the Highway Transport Department, asserted this week that the shortage of medium and heavy bus and truck tires might soon prove "calamitous." This survey was made, it was indicated, in connection with the action of the War Production Board in sharply reducing the allocation of such tires for civilian use.

The O. D. T., as the claimant agency for the truckers and bus operators, had asked for an allocation of 165,000 large tires (8.25 by 20 and over) per month, for "essential" use only, in July, August and September. Refusing the request on the ground of "military necessity," the W. P. B. first set the allocation at 57,000 tires per month and later increased it to 73,000, which figure was still less than one-half of the O.D.T.'s request.

Big Trucks Out of Service—Mr. Richardson's survey was said by O. D. T. to show that a "comparatively large number of essential medium and heavy-duty vehicles were out of operation due to the inability to obtain replacement tires." The prospect of getting these trucks back on the road was termed "exceedingly gloomy." Tank trucks engaged in the oil movement and others handling food and war production material were said to be among those affected.

In addition to the truckers' requirements, Mr. Richardson indicated, a number of local and intercity bus lines have notified the O. D. T. that curtailment of service would be inevitable unless tire replacements are made available at once.

At the time the decision was reached to curtail large tire allocations for civilian use, other steps were instituted by the government agencies concerned to meet the shortage indicated. A priority list was established for the allocation of heavy tires available for civilian use, and all outstanding large tire ration certificates dated before July 15 were canceled. It was estimated that about 100,000 certificates—known in some quarters as "hunting licenses" for tires—were affected by the cancellation order. Price Administrator Chester Bowles said the cancellation was necessary because "these large size tires are so scarce that there are not enough

(Continued on page 249)

6 Mos. Net Income Was \$320,000,000

Net railway operating income
for same period was
\$551,424,141

Class I railroads in the first six months of this year had an estimated net income, after interest and rentals, of \$320,000,000, as compared with \$448,709,268 in the first half of 1943, according to the Bureau of Railway Economics of the Association of American Railroads. The six-months net railway operating income, before interest and rentals, was \$551,424,141, compared with \$712,176,144 in the corresponding 1943 period.

June's estimated net income was \$60,000,000, compared with \$70,626,341 in June, 1943; while the net railway operating income for that month was \$99,821,701, compared with June, 1943's \$108,963,017. June was the thirteenth consecutive month in which the net earnings of the carriers showed a decline, the A. A. R. statement pointed out. Meanwhile, the gross for the month was up from \$747,325,321 to \$799,475,442; but operating expenses had increased from \$451,917,674 to \$518,466,530.

In the 12 months ended with June 30, the rate of return on property investment averaged 4.37 per cent, compared with 6.09 per cent for the 12 months ended with June, 1943.

Gross in the six months totaled \$4,636,071,620 compared with \$4,346,334,591 in the same period, in 1943, an increase of 6.7 per cent. Operating amounted to \$3,077,777,848 compared with \$2,630,384,684, an increase of seventeen per cent.

Class I roads in the six months paid \$909,958,509 in taxes compared with \$908,452,071 in the same period of 1943. For June alone, the tax bill amounted to \$165,018,206, a decrease of \$4,385,978 or 2.6 per cent under June, 1943. Fourteen Class I roads failed to earn interest and rentals in the six months, of which nine were in the Eastern district, one in the Southern region, and four in the Western district.

Class I roads in the Eastern district in the six months had an estimated net income of \$138,500,000 compared with \$178,728,502 in the same period of 1943. Their net railway operating income was \$236,539,731 compared with \$287,557,075.

Operating revenues in the Eastern district in the six months totaled \$2,039,028,898, an increase of 6.1 per cent compared with the same period in 1943, while operating expenses totaled \$1,428,862,070, an increase of 15.4 per cent.

In the Eastern district for June the estimated net income was \$27,000,000 compared with \$28,790,409 in June, 1943, net railway operating income amounted to \$46,574,265 compared with \$44,320,928.

The Southern region's estimated net income for the six months was \$56,000,000 compared with \$78,103,686 in the same period of 1943. Its six-months net railway operating income was \$88,441,266 compared with \$111,565,674.

Gross in the Southern region in the six months totaled \$671,370,946, an increase

of 3.3 per cent compared with the same period of 1943, while operating expenses totaled \$411,111,294, an increase of 13.6 per cent.

For June alone the estimated net income in the Southern Region was \$9,000,000 compared with \$11,232,068 in June, 1943; net railway operating income amounted to \$13,631,274 compared with \$15,713,303.

Class I roads in the Western district in the six months had an estimated net income of \$125,500,000 compared with \$191,877,080 in the same period of 1943. Their net railway operating income was \$226,443,144 compared with \$313,053,395.

Operating revenues in the Western district in the six months totaled \$1,925,671,776, an increase of 8.6 per cent compared with the same period in 1943, while operating expenses totaled \$1,237,804,484, an increase of 20.2 per cent.

The Western district's estimated net income for June was \$24,000,000 compared with \$30,603,864 in June, 1943; net railway operating income amounted to \$39,616,162 compared with \$48,928,786.

CLASS I RAILROADS—UNITED STATES			
	Month of June		
	1944	1943	
Total operating revenues	\$799,475,442	\$747,325,321	
Total operating expenses	518,466,530	451,917,674	
Operating ratio—per cent	64.85	60.47	
Taxes	165,018,206	169,404,184	
Net railway operating income (Earnings before charges)	99,821,701	108,963,017	
Net income, after charges (estimated)	60,000,000	70,626,341	
Six Months Ended June 30, 1944			
Total operating revenues	\$4,636,071,620	\$4,346,334,591	
Total operating expenses	3,077,777,848	2,630,384,684	
Operating ratio—per cent	66.39	60.52	
Taxes	909,958,509	908,452,071	
Net railway operating income (Earnings before charges)	551,424,141	712,176,144	
Net income, after charges (estimated)	320,000,000	448,709,268	

I. C. Employees Vote Strike in Protest to Jap-Americans

A strike of 2,000 Illinois Central employees affiliated with the Brotherhood of Maintenance of Way Employees, set for July 20, in protest against the employment of 59 Japanese-Americans was averted when the War Department instructed the railroad to remove the Japanese-Americans, pending an investigation. The railroad employed the Japanese-Americans at the request of the War Relocation Authority and the President's Committee on Fair Employment Practices. The plan was approved by the national officers of the clerks and maintenance brotherhoods. The first Japanese-Americans were employed on freight platforms early in July but when the local clerks' union protested, they were transferred to maintenance work.

The Japanese-Americans are all citizens of Japanese ancestry recently evacuated from the West Coast and were selected by the War Relocation Authority. Representatives of the railroad and the union discussed the matter at a meeting on July 31, and a meeting of seven non-operating unions to consider the matter was scheduled for August 3.

Newton and Brooke Testify at Hearing

Other C. & O. directors join in
review of relations with
Alleghany in 1937-42

As the investigation being made by the Interstate Commerce Commission of the continuity of control exercised over the Chesapeake & Ohio by the Alleghany Corporation—and its principal stockholders, Allan P. Kirby and Robert R. Young—entered its second week, a still-growing mass of documentary exhibits and a widely-ramifying volume of oral testimony had been introduced into the record of the proceedings. Carl E. Newton, president of the C. & O., who was counsel for Alleghany during the time of its litigation and proxy contests with the Guaranty Trust Co. and associated interests, was subjected to searching and exhaustive questioning by George S. Leisure, principal counsel for Alleghany, and, on cross-examination, by J. J. Doran, a member of the legal staff of the commission's Bureau of Inquiry.

Why Mr. Brooke Resigned—Before Mr. Newton was called to the stand, George D. Brooke, former C. & O. president and now chairman of the board of the Virginian, had been asked to explain the circumstances which had led to his resignation as president of the C. & O. and its affiliated roads, the Pere Marquette and Nickel Plate. This resignation was announced at the December 15, 1942, meeting of the C. & O. board, as noted in *Railway Age* of December 19 of that year, page 1001, and Mr. Brooke explained that he had submitted it after R. J. Morfa, assistant to Mr. Young, chairman of the C. & O. board, had indicated to him the feeling of some members of the board that he might wish to take advantage of the pension arrangements then in effect on that road.

Through the testimony of several former directors of the C. & O., as well as his own, it was brought out that Mr. Brooke had not fully acquiesced in the shifts made in the C. & O. directorate at the annual stockholders meeting in 1942, at which time Mr. Young was named chairman of the C. & O. board and of its finance committee. At the same meeting Frank B. Bernard, Homer L. Ferguson, J. L. Dickinson, John B. Hollister, and Ralph C. Gifford were replaced on the board by five directors whose candidacies were supported by Alleghany, one of them being Mr. Newton. Some of the directors thus replaced had been supported by Guaranty Trust Co. during the period when its interests were represented on the C. & O. board.

The background of the proceedings was outlined in *Railway Age* of July 29, page 212. Most of Mr. Newton's testimony dealt with the legal and financial events which marked the prolonged controversies between Alleghany and the Guaranty Trust Co. and associated interests over Alleghany bond indentures and the exercise of voting rights of Alleghany's C. & O. stock, which was held at that time by the Chesapeake Corporation, a wholly-owned holding company. The sequence of these transactions

was considered to be important to the investigation because of the light they might throw on the control Alleghany exercised or had the power to exercise over the C. & O. at various times, and Mr. Newton endeavored to show that Alleghany had effective control in 1940, prior to the passage of the Transportation Act of 1940, which so modified the Interstate Commerce Act that a non-carrier acquiring control of a carrier thereafter could do so legally only after obtaining I. C. C. authority.

The Brotherhoods Intervene—As the proceeding got under way, representatives of the Brotherhood of Locomotive Engineers and the Brotherhood of Railroad Trainmen appeared as intervenors in support of Alleghany, emphasizing their interest in what was described as its fight "against attempts of financial interests to seize and exercise control of or dominating influence over" the C. & O. and associated roads, and also in the establishment of the principle of competitive bidding in the sale of railroad securities, a policy supported by Alleghany.

As the hearing went on, it became apparent that considerable importance was attached to a notice served by Alleghany on Guaranty Trust Co. that the latter would be held responsible for any injury suffered by Alleghany as a result of the bank's "seizing control" of the C. & O., during the controversy preceding the compromise settlement worked out between the two interests. Mr. Newton was questioned at length about the significance of this statement in the light of the contention that Alleghany had lost control to Guaranty Trust Co. at that time, but the witness declined to agree that the letter constituted an admission by Alleghany that it had actually lost control. Viewed against the complex circumstances that led to the compromise of the difficulties between Alleghany and the trust company and the establishment of separate trustees for the three Alleghany bond issues that was a part of that settlement, the document, he contended, did not have the significance which the commission's investors attributed to it.

The C. & O. president contended further that the settlement between Alleghany and the trust company was reached early in 1940, before the passage of the Transportation Act of 1940, and that any cloud that might be construed to have affected Alleghany's power to control the C. & O. was thereby lifted, thus leaving no doubt of its position with respect to the road at the time the statute was amended. The commission's Bureau of Inquiry took the position, on the other hand, that Alleghany did not regain control of the C. & O. until 1942.

June Truck Traffic

Motor carriers reporting to American Trucking Associations, Inc., transported in June, 2,482,428 tons of freight, a decrease of 1.0 per cent below the 2,506,275 tons reported for May and also a decrease of 1.0 per cent below the June, 1943, figure of 2,508,000 tons. The A. T. A. index, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 178.36 for June as compared to 174.71 in May.

The foregoing figures, according to the A. T. A. announcement, are based on re-

ports from 312 carriers in 43 states. Truckers in the Eastern district reported tonnage decreases of 1.3 per cent under May and 3.1 per cent under June of last year. In the Southern region there was a decrease of 4.7 per cent under May and a drop of 6.9 per cent below June of 1943. In the Western district, however, there was an increase of 1.3 per cent above the May figures and 6.3 per cent above June, 1943.

Radio Telephone for Terminal Traffic Control

The Baltimore & Ohio on July 27 demonstrated the radio telephone train communication system with which it has been experimenting for some time. A handset located in the Baltimore, Md., dispatcher's office is connected by wire to sending and receiving equipment located on the B. & O. office building at a height of 260 feet. This is a 50-watt transmitter. One Diesel-electric locomotive and one caboose which operate in the Baltimore area are equipped with 6-watt transmitters and receivers. The mobile units permit good end-to-end communication and intelligible conversation can be carried on between the dispatcher's office and the train at a distance of 8 or 9 miles. The purpose of this system is to expedite the movement of freight cars in the local yards. In addition to the train-operating advantages afforded by end-to-end communication, the demonstration showed how the dispatcher could instruct the train conductor to pick up certain freight cars needed for delivery to loading ships.

The carrier frequency used was 156.526 (corresponding to a wave length of about six feet) with a twelve kilocycle passband. Total power input to the fixed station is about 900 watts and total power input to the mobile units about 200 watts. It is ex-

pected that improvements will reduce the latter to 100 watts. A type J antenna is used for the fixed station, and experiments are being conducted to determine the directional effect of different types. The antennae on the mobile units consist of a vertical member with an eight-spoke counter-poise. No interference is caused by paralleling power lines, overpasses, or steel bridges, and passing trains do not interrupt conversation. No difficulty is anticipated by long tunnels, though this may require repeater sets or tunnel conductors, or both. The respective advantages of frequency and amplitude modulation are being tried. The experiments are being conducted by the B. & O. in cooperation with the radio division of the Bendix Corporation.

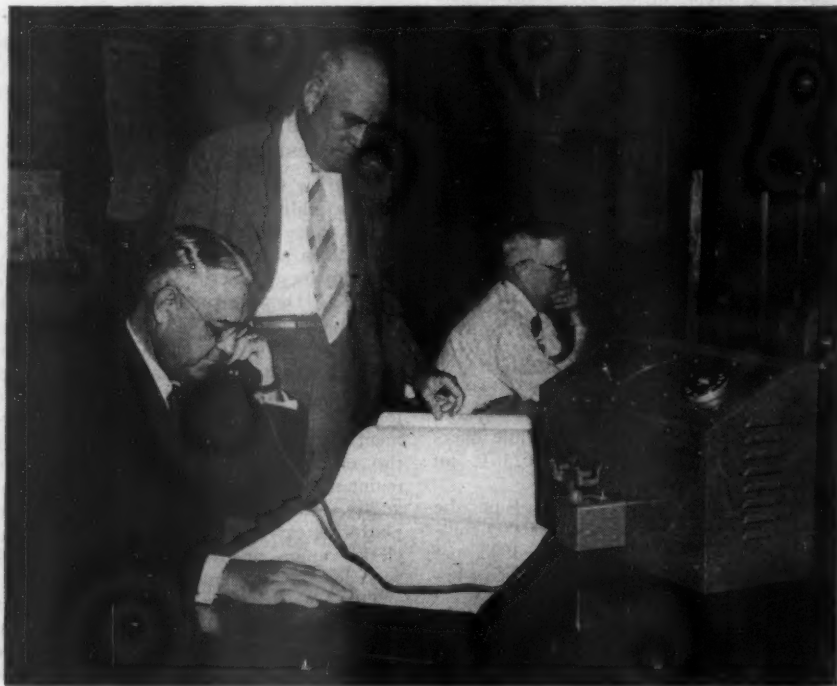
Truck Rationing Simplified

To expedite action on applications for new light or medium weight trucks or truck-tractors (under 16,000 lb. gross vehicle weight), the Office of Defense Transportation has provided a new and simpler application form (ODT-663) to be used by applicants, it was announced July 28. Such applications need not show make or model of vehicle desired, so long as gross weight is shown, and certificates of transfer issued by O. D. T. will be made applicable to any make available, it was explained.

Charge Service Order Violations

Secretary W. P. Bartel of the Interstate Commerce Commission has disclosed that the commission has been advised that civil actions alleging violations of the commission's Service Order No. 178 have been instituted against eight railroads in the appropriate federal district courts.

On each of five counts charging violations by each of the roads concerned a \$500 fine



Equipment Used in the Dispatcher's Office—Using the Handset Is Roy B. White, President, B. & O., and Standing Beside Him Is A. S. Hunt, General Superintendent of Communications

The Steam Locomotive Provides..



Both **SPEED** and **CAPACITY**

FOR all classes of service, the steam locomotive provides any desired speed, without sacrificing the characteristics of economy, flexibility or safety of operation.

LIMA



LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled From 131 Reports (Form IBS) Representing 135 Steam Railways
(Switching and Terminal Companies Not Included)

Income Items	All Class I Railways			
	For the month of May		For the five months of	
	1944	1943	1944	1943
1. Net railway operating income	\$98,505,219	\$129,478,118	\$451,582,442	\$603,213,129
2. Other income	14,088,302	13,429,417	69,997,241	64,179,849
3. Total income	112,593,521	142,907,535	521,579,683	667,392,978
4. Miscellaneous deductions from income...	3,112,335	2,377,348	15,435,876	11,906,824
5. Income available for fixed charges..	109,481,186	140,530,187	506,143,807	655,486,154
6. Fixed charges:				
6-01. Rent for leased roads and equip-				
ment	13,516,011	14,460,282	63,484,579	73,724,551
6-02. Interest deductions ¹	34,468,742	36,076,789	172,032,725	181,217,280
6-03. Other deductions	120,397	125,623	663,622	625,248
6-04. Total fixed charges	48,105,150	50,662,694	236,180,926	255,567,079
7. Income after fixed charges	61,376,036	89,867,493	269,962,881	399,919,075
8. Contingent charges	2,356,113	2,387,898	11,835,349	11,899,716
9. Net income	59,019,923	87,479,595	258,127,532	388,019,359
10. Depreciation (Way and structures and				
Equipment)	26,756,242	26,350,794	132,587,946	132,025,833
11. Amortization of defense projects	15,426,749	11,004,945	73,768,002	51,670,565
12. Federal income taxes	116,303,847	117,267,651	524,948,750	538,253,789
13. Dividend appropriations:				
13-01. On common stock	38,562,120	35,822,548	64,355,366	59,675,017
13-02. On preferred stock	6,646,241	7,067,733	13,282,398	13,446,686
Ratio of income to fixed charges (Item				
5 ÷ 6-04)	2.28	2.77	2.14	2.56

Selected Asset and Liability Items	All Class I Railroads	
	Balance at end of May	
	1944	1943
20. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	\$586,702,448	\$553,629,076
21. Cash	1,146,515,025	1,007,671,697
22. Temporary cash investments	1,830,953,129	1,311,675,935
23. Special deposits	164,454,745	184,650,216
24. Loans and bills receivable	205,956	287,744
25. Traffic and car-service balances—Dr.	53,725,949	43,145,517
26. Net balance receivable from agents and conductors	149,467,585	164,512,455
27. Miscellaneous accounts receivable	652,926,393	572,909,064
28. Materials and supplies	582,281,657	519,002,588
29. Interest and dividends receivable	29,315,617	23,422,439
30. Rents receivable	1,947,878	1,277,115
31. Other current assets	61,945,221	45,878,706
32. Total current assets (items 21 to 31)	4,673,739,155	3,874,433,476
40. Funded debt maturing within 6 months ²	172,676,021	185,829,632
41. Loans and bills payable ³	6,538,386	15,113,928
42. Traffic and car-service balances—Cr.	209,425,981	144,774,844
43. Audited accounts and wages payable	490,626,525	417,445,933
44. Miscellaneous accounts payable	119,124,729	106,348,844
45. Interest matured unpaid	42,967,114	45,478,545
46. Dividends matured unpaid	7,389,602	6,831,920
47. Unmatured interest accrued	68,351,631	73,745,582
48. Unmatured dividends declared	48,207,765	45,859,457
49. Unmatured rents accrued	31,924,419	30,682,698
50. Accrued tax liability	1,899,075,086	1,352,271,542
51. Other current liabilities	87,043,150	66,088,416
52. Total current liabilities (items 41 to 51)	3,010,674,388	2,304,641,709
53. Analysis of accrued tax liability:		
53-01. U. S. Government taxes	1,753,287,387	1,219,605,237
53-02. Other than U. S. Government taxes	145,787,699	132,666,305

¹ Represents accruals, including the amount in default.

² Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.

³ Includes obligations which mature not more than 1 year after date of issue.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

has been asked, or \$2,500 for each road. The claims were based on the alleged use of type RS refrigerator cars for the transportation of empty beer containers, contrary to the requirements of the service order. The roads involved are the Atchison, Topeka & Santa Fe; Chicago, Burlington & Quincy; Chicago, Milwaukee, St. Paul & Pacific; Baltimore & Ohio; Missouri Pacific; Pennsylvania; Richmond, Fredericksburg & Potomac; and Southern.

Chides Airlines for Customer-Hunting Advertising

In connection with a suggestion that the use of priorities for air transportation be carefully reviewed to determine if they are being used as provided by the President's executive order, Col. J. Monroe Johnson, director of the Office of Defense Transportation, recently wrote L. Welch Pogue,

chairman of the Civil Aeronautics Board, and Col. Edgar S. Gorrell, president of the Air Transportation Association of America, to stress the desirability of examining the tenor of current airline advertising for its conformity with present public policy with respect to stimulating travel.

"I raise this point," Col. Johnson wrote, "because we have requested railroads to discontinue any and all traffic-creating and stimulating and competitive advertising. I think that during the past two and one-half years the record of the railroads in this connection is exemplary. During the past twelve months a large number of railroads at our request have utilized advertising to deter travel.

"Recently in discussing the passenger situation with several of the railroad passenger men they referred critically to their competitive disadvantages as a result of the

current airlines' advertising. . . . Under current conditions I believe that advertising practices of the airlines should be completely reviewed.

"We have succeeded thus far in persuading the railroads to refrain from promotional or merchandising advertising. But naturally they grow restive when they see airlines apparently bidding for business.

"It might be well to call the attention of the airline industry to the desirability of their conforming to their agreed advertising restrictions and likewise to review the advertising agreement to see if it meets the tests of the present sound public policy, which, in my opinion, is to deter travel."

Illinois Commerce Commission Statistician Dies

Neil C. Albin, statistician for the Illinois Commerce Commission since 1918, died in Springfield, Ill., on July 26, following a major operation.

I. C. C. Proposes Order on AB Brakes

The Interstate Commerce Commission has called upon the railroads to show cause in writing by August 26 why it should not prescribe specifications for power brakes and appliances for operating power brake systems and require that all cars used in freight service be equipped with the prescribed brakes on or before January 1, 1946. The order, dated July 29, is in No. 13528, and the specifications which the commission would prescribe are set forth in an appendix; they are practically identical with the AB brake specifications of the Association of American Railroads.

The order recalls that the commission on July 18, 1924, made a report in this proceeding, enumerating certain general requirements which should be met by power brakes. Also, that the A. A. R. adopted specifications for the AB brake on August 16, 1933, and promulgated a rule which, as modified, now requires that all freight cars used in interchange service must be equipped with AB brakes by January 1, 1945.

Yet, as the order puts it, "the reports filed semi-annually with the commission by the Association of American Railroads show that the progress in equipping freight cars in interchange service with air brakes meeting said specifications has not been as rapid as anticipated, and that only approximately 50 per cent of such cars are now so equipped."

The order calls for a prehearing conference to discuss the matter. This will be held at the Morrison Hotel, Chicago, at 10 a.m. on September 6 with I. C. C. Chairman Patterson presiding.

Fall Mechanical Association Meetings are Cancelled

The annual meetings of co-ordinated mechanical associations, including the Railway Fuel and Traveling Engineers' Association, Master Boiler Makers' Association, Car Department Officers' Association and Locomotive Maintenance Officers' Association, scheduled to be held at the Hotel Sherman, Chicago, September 26 to 29, 1944, have been cancelled at the request of A. A. R. Mechanical Division. The request was

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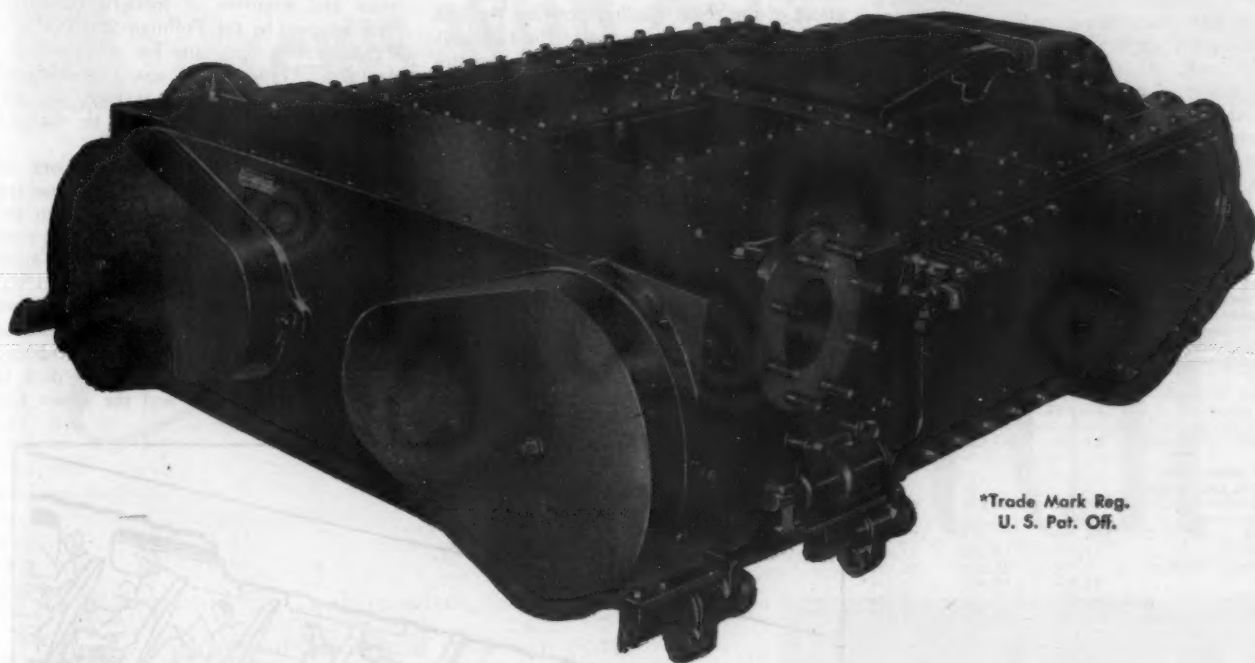
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8 OUTSTANDING Features of the

New TYPE "E" BOOSTER*



*Trade Mark Reg.
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To meet the requirements brought about by the trend in locomotive design toward higher boiler pressures and by the new factors in current steam locomotive operation, the Type "E" Booster has many outstanding features.

These include (1) a short cut-off; (2) a special starting feature; (3) cast steel cylinders, with integral inlet and exhaust manifolds; (4) dynamic balancing; (5) a roller bearing crank shaft; (6) a new air control, permitting engagement at higher speed; (7) a new design of ball joint, insuring free flow of steam to and from the Booster; and (8), for each Booster application, the selection of the proper gear ratios for given boiler pressures, wheel diameters and adhesive weight.

Maximum effectiveness and economy in operation is assured by these features.



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NEW YORK • CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

August 5, 1944

made in a formal letter from Executive Vice-Chairman V. R. Hawthorne which stated that the general committee had reviewed again the matter of holding these meetings, and, in view of present conditions, asked that the annual meetings be cancelled for 1944. He explained that the request was being made in accordance with the expressed desire of Col. J. Monroe Johnson, director of the Office of Defense Transportation.

Freight Car Loading

Loadings of revenue freight for the week ended July 29 totaled 910,533 cars, the Association of American Railroads announced on August 3. This was an increase of 7,499 cars, or 0.8 per cent above the preceding week, an increase of 25,008 cars or 2.8 per cent above the corresponding week last year, and an increase of 46,957 cars, or 5.4 per cent, above the comparable 1942 week.

Loading of revenue freight for the week ended July 22, totaled 903,034 cars and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading			
For the Week Ended Saturday, July 22			
District	1944	1943	1942
Eastern	166,840	166,468	156,253
Allegheny	197,373	191,220	185,981
Pocahontas	56,202	56,906	56,569
Southern	123,662	118,539	119,663
Northwestern ..	140,192	144,832	143,339
Central Western ..	142,810	133,288	124,295
Southwestern ..	75,955	72,585	69,415
Total Western Districts	358,957	350,705	337,049
Total All Roads	903,034	883,838	855,515
Commodities			
Grain and Grain Products	59,723	58,839	46,330
Live Stock	13,970	13,766	10,636
Coal	176,298	177,715	162,287
Coke	14,669	14,110	13,875
Forest Products ..	50,737	47,688	54,134
Ore	84,468	88,567	90,324
Merchandise l.c.l.	102,481	97,316	87,588
Miscellaneous ..	400,688	385,817	390,341
July 22	903,034	883,838	855,515
July 15	904,804	877,335	857,146
July 8	745,141	808,630	855,158
July 1	897,800	852,082	753,740
June 24	881,267	760,930	853,418
Cumulative Total,			
30 Weeks ...	24,502,173	23,522,353	24,384,960

In Canada.—Car loadings in Canada for the week ended July 22 totaled 72,552, as compared with 70,691 in the previous week and 67,340 cars for the corresponding week last year, according to the compilation of The Dominion Bureau of Statistics.

	Total Revenue Cars Loaded	Received from Connections
Total for Canada		
July 22, 1944	72,552	38,469
July 15, 1944	70,691	35,826
July 8, 1944	71,405	36,831
July 24, 1943	67,340	41,937
Cumulative Totals for Canada		
July 22, 1944	2,005,708	1,133,140
July 24, 1943	1,850,402	1,148,114
July 25, 1942	1,848,645	958,904

New Rail Allocations Cut for Last Half of 1944

The tonnage of new rail available to domestic railroads in the third and fourth quarters of this year will be substantially less than they sought from the War Production Board through their claimant agency, the Office of Defense Transportation, O. D. T. Director Johnson disclosed this week. Allocations have been cut by

the W. P. B., it was indicated, because of increased demands made by other government agencies, and because production has been reduced.

The O. D. T. had requested 550,000 tons of rail for third quarter allocation, and the W. P. B. had allotted the railroads 500,000 tons for this quarter earlier in the year, it was explained, but this figure has been reduced in the revised allocation to 400,000 tons. Decision on the fourth quarter allotment has not been made yet, Col. Johnson said, but all signs point to a quantity somewhat lower than that for the third quarter, he indicated. Altogether, the year 1944 allocations of rail will total about 1,800,000 tons, or much below what the O. D. T. asked for, he explained, but still larger than the 1943 allotment, which was 1,540,000 tons.

As a possible means of minimizing the effect of the reduced allotments for the last half of the year, a canvass of the railroads is being started to uncover possible supplies of fit relay rail that might be suitable for application in certain localities, and thus somewhat relieve the demands for new rail, it was said further.

Massachusetts Eases Truck Hire Regulations

Because, at the request of the Office of Defense Transportation, the state of Massachusetts has temporarily suspended restrictions on the use of trucks leased by operating companies to handle increased traffic, Governor Saltonstall has been commended in a letter made public by O. D. T. Director

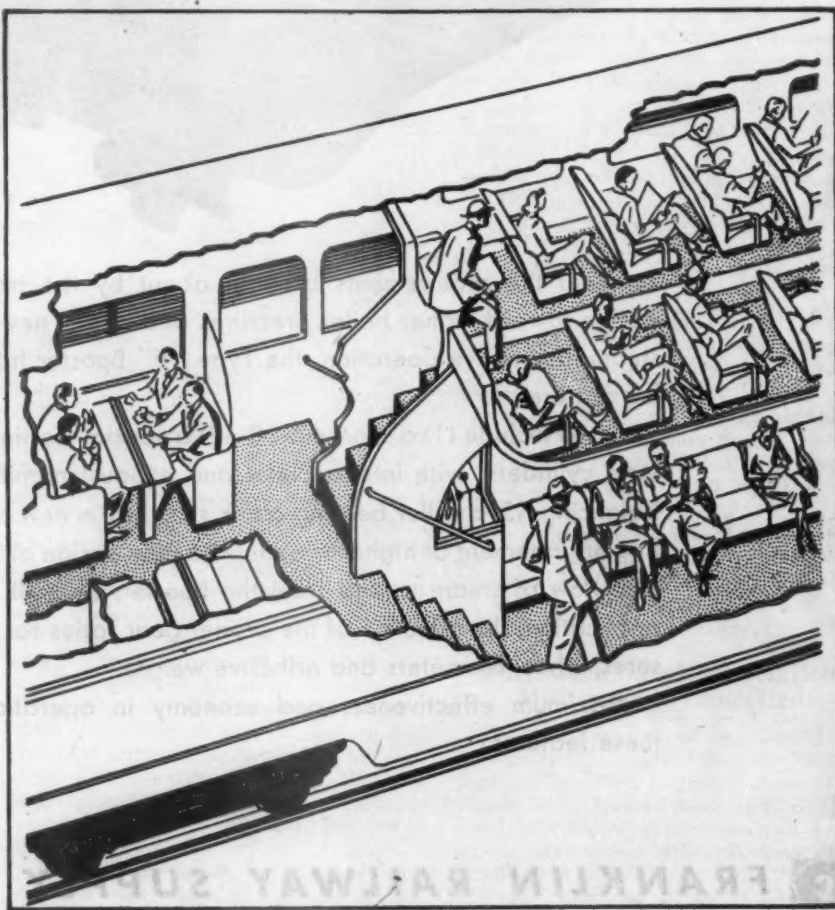
Johnson. The action, in the form of an executive order, was taken as a wartime measure to cooperate in improving the flexibility of truck utilization, it was explained.

The executive order provides that for-hire motor carriers temporarily leasing trucks from private carriers for emergency transportation of essential materials may transfer "distinguishing plates" from one leased vehicle to another without paying a transfer fee or obtaining the consent of state authorities, as required by the state laws.

Three-Deck Coach Designed by Pullman-Standard

A three-deck streamlined coach, called the Threedex, which will seat 112 passengers and which will provide the conveniences and luxuries of modern cars, has been designed by the Pullman-Standard Car Manufacturing Company for postwar manufacture. Although the coach is designed primarily for commuter service, the arrangement of the interior can be changed for long-distance travel.

Four side entrances to the car, one on each side at each end, are provided on the middle level. This level extends into the car and over the trucks and each end contains two game or card rooms with seats for 4 persons each. From this middle level, which is at the same height as present coach floors, two side stairways lead to the lower deck and one central stairway leads to the top deck. The lower deck is about five steps below and the upper five



3-Deck Commuter Car Seats 112 Passengers

**EFFICIENT USE OF FUEL
BEGINS WITH A...**

*Photograph Courtesy of
Chesapeake & Ohio Railway Co.*

Complete ARCH

EVERY pound of coal involves scarce man-hours for its production and vital transportation to the point of use. Its economical use is essential.

For 35 years the fuel savings of the Security Sectional Arch have been universally recognized by railroad men.

But only a complete arch can give the maximum in fuel economy. To this end see that every locomotive leaving the roundhouse has a full length arch.



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Refractory Specialists



**AMERICAN ARCH CO.
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***Locomotive Combustion
Specialists***

steps above the middle deck, the height of the car being about 13½ ft. The lowest level contains two rows of 22 outward-facing seats placed back to back, with aisles on each side of the car. Wide windows are incorporated in the design, while general artificial illumination is supplemented with special focused lighting at the reading level in each seat.

According to Ellis W. Test, assistant to the president in charge of engineering and research, "This basic design is by no means inflexible. Already we have plans for a dozen variations to conform with the requirements of every railroad. We are also working on a modified version for long-distance travel. At a sacrifice of some capacity, this transcontinental model will offer much more individual comfort, including reclining seats for sleeping. It is a soundly designed, practical railway car which we are prepared to build as soon as war conditions permit the release of material by the War Production Board."

Tire Shortage Hits Big Truck Operators

(Continued from page 244)

even to meet the most essential needs. By invalidating the older certificates we make sure that present low stocks are drawn on only to fill the needs of applicants at the top of the essentiality list."

Retail Deliveries Unfavored—Under the priority list furnished the O. P. A. by the W. P. B., bus lines, fire departments, ambulances, and other emergency and public health operations, mail, and fuel oil vehicles would receive first consideration in the distribution of the large tires available. Next in priority are all-commodity intercity truck lines, and trucks handling perishables, milk, ice, coal, water, munitions and war equipment, but retail movements are generally excepted from this favorable classification. Trucks handling farm produce and farm equipment also rate this level of priority. In the next lower category come truckers of household goods and those in city haulage and drayage. Retail deliveries and other classifications considered less essential are rated still lower. These priorities apply only to trucks using large tires, of course.

According to Mr. Richardson, until the tire supply situation improves, "only those services at the very top of the list can be taken care of—possibly no more than fire fighting, sanitation, mail and similar municipal requirements, and some city, suburban and intercity bus lines."

Johnson After W. P. B. for More—Commenting on Mr. Richardson's report and the current situation, O. D. T. Director Johnson said: "I would be derelict in my duty if I did not point out that if essential rubber-borne transportation continues to leave the highways, the effect on our war effort will be of significant proportions. We know the military requires large quantities of the same kind and size of tires needed for essential highway transportation. We would not want to deprive the army of a single tire required for present use or for use in the immediate future. How-

ever, unless a basic minimum quantity of tires is available for highway use, many war workers will be unable to get to their jobs, and war plants will be unable to make and deliver the vital war materials the armed forces so urgently need."

Col. Johnson said he was continuing discussions with the W. P. B. in the hope that large tire allocations for the last quarter of the year would be large enough to provide for "essential requirements" and to restore to the highways those vehicles now out of operation. Meanwhile, he urged truckers and bus operators to continue, and where possible to increase, conservation and service curtailment measures.

I. C. C. Service Orders

Upon recommendation of the Grain and Grain Products Transportation Conservation Committee of the Office of Defense Transportation and the Interstate Commerce Commission, which was supported by the O. D. T., the commission has issued Service Order No. 222, prohibiting railroads from routing carload shipments of non-transit grain, grain products, and related products, also seeds, over certain specified routes. The order becomes effective September 10, to remain operative until further order of the commission or until six months after the end of the war.

The recommendation that the routes be closed was based on the finding that the time consumed in transporting this traffic over such routes, as compared to more direct routes, constituted a waste of transportation facilities under existing conditions. The order was made applicable to certain routes from Atchison, Kan., Leavenworth, Topeka, St. Joseph, Mo., Kansas City, St. Louis, and East St. Louis, Ill., to Natchez, Miss., Vicksburg, Miss., New Orleans, La., Fort Worth, Tex., North Fort Worth, Tex., Houston, Tex., and Memphis, Tenn.

Service Order No. 159, applying to combustible liquids consigned to Salisbury, Md., has been vacated. The effective date of Service Order Nos. 180, 184 and 188 has been postponed to September 9. Nos. 180 and 188 relate to increased demurrage charges on refrigerator cars, and No. 184 to placing cars for shippers of meat and packing house products.

By Service Order No. 221 the commission has directed railroads to furnish rough box cars for the loading of shingles at points in Oregon and Washington so far as they are available, and that such cars be loaded to full visible capacity, there being a supply of such cars available in these states due to westbound loading thereto.

Would Tighten Supervision of Government Corporations

Government corporations, including the Inland Waterways Corporation, operator of the Federal Barge Lines, should be brought under more rigid supervision by Congress and the General Accounting Office, according to recommendations of an additional report from the Joint Committee on Reduction of Nonessential Federal Expenditures which was submitted to the Senate this week by the committee's chairman, Senator Byrd, Democrat of Virginia.

I. W. C. and its affiliate, the Warrior

River Terminal Company, were listed in the report among the government corporations which are under "no current control by Congress, Bureau of the Budget, or General Accounting Office." Another corporation on the list was the Panama Railroad Company.

"Government corporations to a great degree do business in competition with private enterprise," Senator Byrd said. "They encroach upon and compete with business—with business under serious disadvantage. They have practically unlimited government credit at low rates of interest; freedom in some instances from federal, state, and local taxation on property and securities, except taxes on real estate; they also enjoy the privilege of penalty mail and other concessions similar to those enjoyed by regular federal agencies. Add to these the prestige of a government agency, and business meets an invincible competitor.

"There is no effective over-all control. Alone or in certain groups these corporations are autonomous. There has been a growing independence on the part of the corporations to resist attempts of the General Accounting Office to audit their accounts, and, on the other hand, this office has failed to press its rights in this matter. . . ."

Rail-Air Express Shipments Rise 14.3 Per Cent

In the first five months of this year, rail and air express shipments increased 14.3 per cent over the January to May period a year ago, the air express division, Railway Express Agency, has reported. There were 180,464 shipments in the five-month period of this year, as compared with 157,885 for the same months a year ago, and revenue on this traffic increased 9.4 per cent.

CRUSADER STATISTICS

Miles Traveled	700,000
Round Trips - Phila. N.Y.	3,888
Passengers Carried	5,749,431
Meals Served	986,625
Drinks Served	1,775,222
Drunks Helped Off	401
Lady Drunks Carried Off	31
Hats Lost	1,007
Umbrellas Lost	1,113
Tempers Lost	1,125
Jokes told the Steward	89,449
Clean Jokes told the Steward	3
Question most frequently asked - "Is this the only dinet on the train?"	
REMARK most frequently heard	
"OH! HELL! Are We There Already?"	

C. C.

Reading Received Unsolicited Publicity When This Tabulation (Which Did Not Stem from the Railroad) Recently Found Its Way into the Hands of Amused "Crusader" Passengers

Forge New Life

into your *Old* Superheater Units

Return them to our plant for

re-manufacture, where our forg-

ing process will refabricate the

old units and maintain their

DEPENDABILITY with renewed

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Supply Trade

Handy & Harman has been granted a fifth Army-Navy "E" award with the right to retain the flag for a year before being considered for the next renewal.

The Clark Tractor division of the **Clark Equipment Company**, Battle Creek, Mich., has received the Army-Navy "E" production award for the third time for high achievement in the production of war material.

W. L. Fox, general superintendent of the Belt Railway of Chicago, has resigned to become vice-president of the **Coach & Car Equipment Corp.**, Chicago. Mr. Fox was born in Brainerd, Minn., on May 9, 1888, and was educated at Severy Military Academy at Nashville, Tenn., and Vanderbilt University. He entered railway service with the Tennessee Central in 1909, and served successively until 1912, as track apprentice, section foreman, assistant extra gang foreman, and maintenance of way accountant. From 1915 to 1917, he was supervisor of



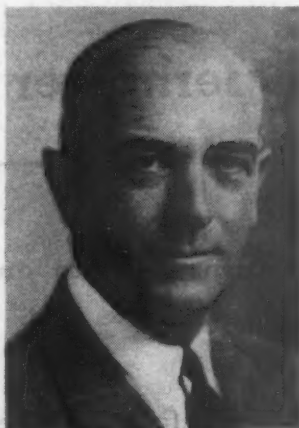
W. L. Fox

track of the Nashville, Chattanooga & St. Louis, and from 1918 to 1922 served on this road as trainmaster. In the latter year he resigned to become superintendent of the Midland Valley, which position he held until 1924. From the latter date to 1927, he was manager of the Osage; from 1927 to 1928, assistant superintendent of the Kansas City, Mexico & Orient of Texas; and from 1929-31, he engaged in the automobile and oil business. In 1932, he entered the employ of the Belt Railway of Chicago as claim agent and supervisor of personnel, and in the following year was made superintendent. In 1935, he was promoted to general superintendent of the Belt and the Chicago & Western Indiana. He was president of the American Association of Railroad Superintendents in 1938-39.

Lloyd W. Hopkins has been appointed sales manager of the Reading steel casting division of the **American Chain & Cable Co.** Mr. Hopkins, who will make his headquarters at Reading, Pa., has been with the company for 21 years during which time he served successively in the research and en-

gineering development departments, as head of the technical sales department, as sales engineer for the Reading-Pratt & Cady division, and lately as chief of the priorities and contract termination department at Reading.

Raymond P. Townsend, sales manager, eastern region, transportation department of



Raymond P. Townsend

the **Johns-Manville Sales Corporation**, has been appointed general sales manager of the transportation department throughout the United States and Canada with headquarters at New York. **John D. Johnson**, divisional sales manager of the transportation department, eastern division, has been promoted to sales manager, eastern region, transportation department, also with headquarters at New York. Mr. Townsend began his career in the purchasing department of the New York Central, later serving as purchasing agent of the Liberty Steel Products Company and as railroad sales representative of the Murphy Varnish Company. He joined Johns-Manville in March, 1925. Mr. Johnson began his career in railroad servicing work in the mechanical



John D. Johnson

departments of the New York Central, the Missouri Pacific and the Baltimore & Ohio, from 1907 to 1919. He joined Johns-Manville as a salesman in 1920 and was appointed division sales manager of the central division at Cleveland, Ohio, in 1930.

He was appointed acting sales manager of the eastern division with headquarters at New York in 1943.

The **Cardinal Supply & Manufacturing Co.**, Omaha, Neb., has been appointed exclusive sales representative in the Omaha territory for the **Whiting Corporation** of Harvey, Ill.

H. N. Hayes, general sales manager of the **Coffing Hoist Company**, Danville, Ill., resigned on July 1, 1944, to become associated with the **R. J. McQuade Company**, Chicago.

The **Cochrane Corporation**, Philadelphia, Pa., has been granted a renewal of its Army-Navy "E" award for continued excellence in production.

H. G. Mastin, who has been promoted to district sales manager of the Eastern district of the Railroad department of the **Dearborn Chemical Company**, Chicago, with headquarters at New York, as reported in the *Railway Age* of July 29, entered railway service with the New York, Ontario & Western where, during 11 years of service, he advanced from locomotive fireman to traveling fireman and to assistant road



H. G. Mastin

foreman of engines. Following that he was employed for 10 years by the Locomotive Stoker Company, six years as service engineer and four years as sales representative. For the next 5½ years he was employed in the railroad and marine departments of the Pantasote Company and for the next six years he was a sales representative in the Locomotive Equipment division of Manning, Maxwell & Moore. He entered the employ of the Dearborn Chemical Company on April 15, 1942 as a service engineer, which position he has held until his recent promotion.

Adam J. Hazlett, general manager of sales, has been elected vice-president in charge of sales of the **Jones & Laughlin Steel Corporation**, to succeed **Lewis M. Parsons**, who has resigned. **L. T. Wilson** has been appointed manager of cold finished sales in addition to his duties as manager of ordnance sales for the company.

Fay D. Welden, who has been associated with the Valve Pilot Corporation of New York for the past eighteen years, has been appointed assistant manager of sales,

railroad division, for the **Ex-Cell-O Corporation**, Detroit, Mich.

E. E. LeVan, vice-president and general manager, has been elected president of the **Haynes Stellite Company**, a unit of the Union Carbide & Carbon Corp., to succeed the late **Francis P. Gormely**.

Equipment and Supplies

LOCOMOTIVES

The **VIRGINIAN** is reported to have ordered eight steam locomotives of 2-6-6-6 wheel arrangement from the Lima Locomotive Works. The inquiry for this equipment was reported in the *Railway Age* of July 15.

FREIGHT CARS

The **BALTIMORE & OHIO** is inquiring for 1,700 new freight cars, including 1,000 50-ton hopper cars, 500 50-ton box cars and 200 50-ton automobile cars.

Financial

AKRON, CANTON & YOUNGSTOWN.—Promissory Notes.—This company has applied to the Interstate Commerce Commission for authority to issue a promissory note for \$116,200 in connection with its purchase from the Lima Locomotive Works of one 2-8-2 locomotive at a cost of \$154,950. At the same time, the road asked for authority to issue 4 promissory notes in the aggregate amount of \$350,000 in evidence of, but not in payment for, the unpaid amount of 4 outstanding conditional sales agreements for the purchase of equipment.

CENTRAL OF GEORGIA.—Reorganization Hearing.—On July 25, a reorganization plan for the Central of Georgia was presented by the railroad's trustee to R. T. Boyden, Interstate Commerce Commission examiner, in Brooklyn, N. Y. The railroad estimated that the plan would effect a 63 per cent decrease in the railroad's total debt, including unpaid interest. The present debt, including unpaid interest accrued to January 1, 1944, was set forth as \$87,575,138. The railroad was reported contemplating the outright purchase of three leased lines, the Southwestern, the Augusta & Savannah, and the Chattahoochee & Gulf.

CHESAPEAKE & OHIO-NEW YORK CENTRAL.—Acquisition and Lease.—These two companies have applied to the Interstate Commerce Commission for authority to lease jointly certain trackage which the Nicholas, Fayette & Greenbrier at the same time has sought authority to acquire from the C. & O. The Greenbrier line is jointly owned by the C. & O. and N. Y. C., and jointly leased to them. The additional lines

which it proposes to acquire are the 5.3-mile Hominy Creek subdivision of the C. & O. and a 4-mile extension thereof which is now under construction.

CHICAGO & NORTH WESTERN.—Promissory Notes.—Division 4 of the Interstate Commerce Commission has authorized this company to issue \$366,204 of promissory notes in further evidence of the unpaid purchase price of six diesel-electric switching locomotives.

CHESAPEAKE & OHIO-WHEELING & LAKE ERIE.—Acquisition of Stock.—In a proposed report, Examiner R. R. Molster has recommended that the Interstate Commerce Commission deny the Chesapeake & Ohio's application for removal of certain restrictions under which it was authorized to purchase additional stock of the Wheeling & Lake Erie (noted in *Railway Age* of November 27, 1943, page 883), the effect of which was to limit the number of additional shares that could be bought and the price paid for them. The combined interest of the C. & O. and of the Nickel Plate, which it controls, in the stock of the W. & L. E. is about 67 per cent of the total outstanding, the examiner stated, and is said to be sufficient to bring about a merger under Ohio laws.

"The effect of the petition," he observed, "is to ask the commission to repudiate any further interest in, or concern for, matters of paramount importance, and leave the applicant free to acquire additional Wheeling & Lake Erie stock which, ostensibly, it does not need, without submitting to the commission any information as to the amount involved, the reason for such expenditure, the source of the necessary funds, or terms and conditions of intended acquisition or acquisitions." Division 4, which had imposed the restrictions on such transactions, did so intentionally and properly, in the examiner's opinion, so that steps for further control of the W. & L. E. should remain subject to its jurisdiction. The C. & O. had contended that, having effected control, acquisition of additional shares of W. & L. E. stock would not alter that situation. This argument was held by the examiner to be one that the commission would have to consider on the basis of facts and law when submitted, and meanwhile the C. & O.'s position as to control of the Wheeling, aside from the Nickel Plate's interest, apparently could be altered by acquiring more stock. The examiner added, however, that the commission does not have general supervision of investments by carriers.

Pointing out that the C. & O. had had recourse to equipment trusts in financing recent equipment purchases, the examiner remarked, "While nothing is said in the petition as to the manner in which the applicant would finance the purchase price of the additional shares which it proposes to acquire, . . . it would seem to have no alternative other than recourse to borrowing money if it should undertake to buy any considerable number of shares. And this provides a forceful illustration of the reason and the need for the commission's fostering jurisdiction in such situations. There are better ways of putting railroads together than by purchase of stock at high

prices, coupled with an increased burden of debt. Unification may be accomplished by consolidation, merger, or purchase of properties, without any substantial expenditure of cash, or increase in debt and fixed charges, through an exchange of stock in an appropriate ratio."

CHICAGO & NORTH WESTERN.—Note Redemption.—The Chicago & North Western has called for redemption on September 29, 1944, \$2,160,028 of its secured serial payment 4 per cent notes maturing in 1954, the amount being the remaining balance on former bank loans. With this payment, approximately \$39,000,000 will have been expended in debt retirement since reorganization on June 1, 1944.

DENVER & SALT LAKE.—Pledge of Securities.—Division 4 of the Interstate Commerce Commission has authorized this road to pledge \$1,000,000 of its series A 4 per cent first mortgage bonds to July 31, 1946, as collateral for a loan from the First National Bank of Denver, Colo., obtained to meet expenses arising from the rehabilitation of a tunnel damaged by fire.

JOLIET UNION DEPOT.—Operation.—Division 4 of the Interstate Commerce Commission has approved a modified agreement for the use of this company's passenger station and related facilities by the joint owners of its capital stock, the Alton, Chicago, Rock Island & Pacific, and Atchison, Topeka & Santa Fe.

NEW YORK, SUSQUEHANNA & WESTERN.—Annual Report.—The 1943 annual report of this road shows a net income, after interest and other charges, of \$500,802, as compared with a net income of \$268,934 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated		
RAILWAY OPERATING REVENUES	\$5,793,872	+\$1,363,202
Maintenance of way and structures	410,871	+61,716
Maintenance of equipment	465,511	+63,245
Transportation	2,013,826	+416,522
TOTAL OPERATING EXPENSES	3,131,291	+589,940
NET REVENUE FROM OPERATIONS	2,662,580	+773,262
Railway tax accruals	807,389	+353,995
RAILWAY OPERATING INCOME	1,855,191	+419,267
Net rents—Dr.	765,923	+246,408
Joint facility rents	116,172	+46,628
NET RAILWAY OPERATING INCOME	1,089,268	+172,859
Other income	63,481	-10,796
TOTAL INCOME	1,152,749	+162,062
Rent for leased roads and equipment	3,500	-1,880
TOTAL FIXED CHARGES	640,502	-52,003
NET INCOME	500,802	+231,869

SEABOARD AIR LINE.—Equipment Trust Certificates.—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for \$2,760,000 of series MM equipment trust certificates, sold at 99.531 with a 2 per cent per annum dividend rate to Harris, Hall & Co. of Chicago, in connection with the purchase of

Breaking Critics *with* **GM FREIGHT DIESELS**

THE Southern Railway, one of the nation's great railway systems, continues to haul tremendous volumes of vital war materials from the south and southwestern sections of the country. Daily movements of oil became so staggering, almost overnight, that the movement of oil was soon the No. 1 war job of the Southern. Immediately upon delivery of the first of its fleet of eight 5400 Hp. General Motors Diesel freight locomotives, it was assigned to handling symbol oil trains through a section of the line that had been a "bottleneck." As other GM Diesels

were delivered, they were immediately assigned to this service with the result that the Southern has established a very enviable record for the rapid delivery of oil to the Eastern seaboard.

In passenger service, a fleet of eleven General Motors Diesel locomotive units, with over 5,000,000 miles of operation, has established the remarkable availability record of 96 percent and a high on-time record despite the severity of the service. General Motors Diesel switchers round out the Southern's rapidly growing Triple-Diesel Service.

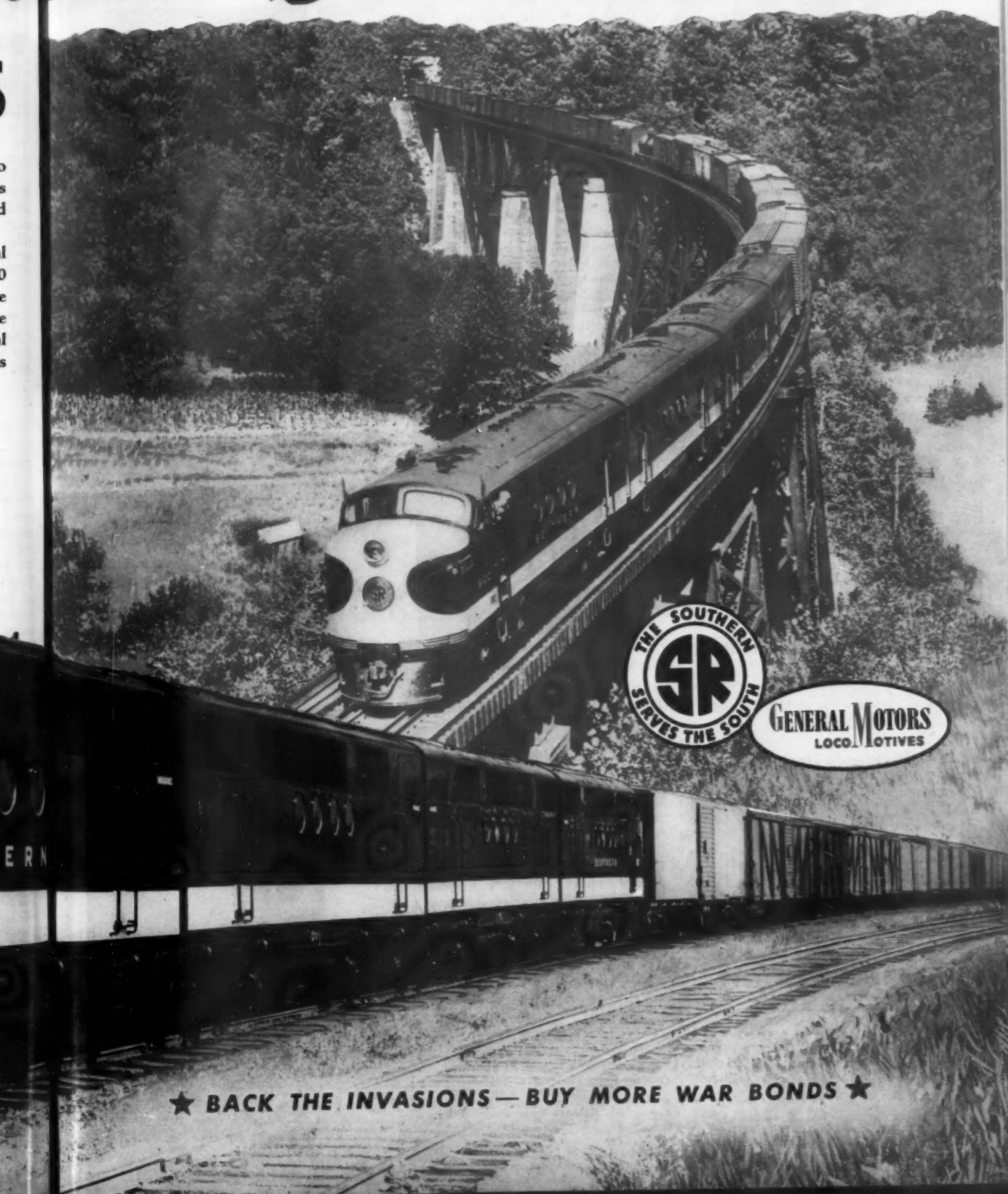
ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION

LA GRANGE, ILLINOIS, U. S. A.



ical "Bottlenecks"



★ BACK THE INVASIONS — BUY MORE WAR BONDS ★

five 5,400-hp. Diesel-electric freight locomotives, 200 50-ton box cars, and 200 70-ton hopper cars at a total cost of \$3,732,220.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.—*Bond Issue.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue \$12,000,000 of general mortgage 4 per cent bonds to be pledged as collateral under its refunding and improvement mortgage. As a part of this action \$7,000,000 of this issue will replace an equal amount of first mortgage 4½ per cent bonds now pledged.

UNION PACIFIC.—*Equipment Trust Certificates.*—On July 27, Halsey, Stuart & Co. offered for sale to the public the Union Pacific's \$8,120,000 issue of equipment trust certificates, maturing annually from August 1, 1945, to August 1, 1954, at prices to yield from .80 to 1.825 per cent according to maturity. (Previous item in *Railway Age* of July 8, page 101.)

YOUNGSTOWN & SOUTHERN.—*Acquisition of Pittsburgh, Lisbon & Western.*—The Youngstown & Southern, until June 8 known as the Youngstown & Suburban, has applied to the Interstate Commerce Commission for authority to acquire the property of the Pittsburgh, Lisbon & Western by merger and exchange of securities. Both companies are controlled by the Pittsburgh Coal Co. by ownership of stock and bonds. To complete the transaction, the Y. & S. has asked authority also to issue \$900,000 of common stock, an unsecured 3½ per cent note for \$500,000, payable in ten equal annual installments, and a 4 per cent 20-year note for \$1,000,000, secured by first mortgage. These new securities would be exchanged for outstanding issues of the two companies, amounting to \$970,000 in stock and \$1,863,920 of bonds and other obligations, all held by the coal company.

Average Prices Stocks and Bonds

	Aug. 1	Last week	Last year
Average price of 20 representative railway stocks..	41.65	41.80	36.55
Average price of 20 representative railway bonds..	89.29	89.21	78.76

Dividends Declared

Atlanta & West Point.—\$2.50, payable August 1 to holders of record July 18.

Clarendon & Pittsford.—Special guaranteed, 50¢; 7% guaranteed, 87½¢; both quarterly, both payable September 1 to holders of record August 18.

United New Jersey Railroad & Canal.—\$2.50, quarterly, payable October 10 to holders of record September 20.

Western of Alabama.—\$3.50, payable August 1 to holders of record July 18.

Construction

NEW YORK, NEW HAVEN & HARTFORD.—This company has awarded a contract for the construction of a dormitory building at New Haven, Conn., at estimated cost of \$140,000, to the Wadhams, May & Carey Co. of Hartford, Conn.

Railway Officers

EXECUTIVE

Carl B. Walker, assistant freight traffic manager of the Southern at Washington, D. C., has been appointed assistant to the vice-president with the same headquarters, effective August 1.

C. F. Caley, assistant director in charge of car utilization, division of traffic movement, Office of Defense Transportation, has been appointed special assistant to the vice-president of the New York, New Haven & Hartford, with headquarters at New Haven, Conn.

Frederick E. Baukhages, III, whose appointment as executive assistant to vice-president in charge of finance of the Baltimore & Ohio, was announced in the *Railway Age* of July 29, was born at Baltimore, Md., on February 6, 1910. He was gradu-



Frederick E. Baukhages, III

ated from the University of Virginia in 1930 and from the law school there in 1933. He was admitted to the bar of Virginia in 1932, practicing law in Mathews County until he joined the legal staff of the Reconstruction Finance Corporation at Washington in 1935, being connected with the bank loan section. From 1938 until 1941 Mr. Baukhages was in the railroad loan and reorganization section of the R. F. C. During this latter period he was associated with R. L. Snodgrass, who was then assistant general counsel of the R. F. C., and is now Baltimore & Ohio vice-president with whom Mr. Baukhages works in his new position. In 1941 Mr. Baukhages joined the Union Pacific as personnel assistant to the vice-president of operations, continuing in that capacity until his present appointment as executive assistant of the Baltimore & Ohio.

OPERATING

Arthur Weddington Conley, acting general supervisor of terminals of the Baltimore & Ohio at Baltimore, Md., has been appointed general supervisor of terminals, with the same headquarters as before. Mr.

Conley, who was born on January 22, 1901, entered railroad service on December 14, 1922, as yard clerk and switch tender with the Baltimore & Ohio at Benwood, W. Va. In March, 1923, he became clerk, after which he served successively as checker, yardmaster, and general yardmaster. In



Arthur Weddington Conley

March, 1929, he was named assistant trainmaster, becoming terminal trainmaster the following year, and general yardmaster in 1933. Mr. Conley was appointed terminal trainmaster again in 1935, and became trainmaster at Washington, D. C., in August, 1936. He was advanced to terminal superintendent of the Buffalo-Rochester division at Buffalo, N. Y., in July, 1942, and on April 20, 1944, was named acting general supervisor of terminals. From this post he rose to general superintendent of terminals, his new appointment.

F. A. Cooke, whose appointment as general superintendent of dining cars of the Atlantic Coast Line, with headquarters at Washington, D. C., was announced in the *Railway Age* of June 24, was born at Momence, Ill., on July 28, 1902. A graduate of the Lewis Hotel Training School at Washington in 1925, Mr. Cooke entered rail-



F. A. Cooke

roading in 1921 with the Chicago & Eastern Illinois at Momence, as a car clerk. In 1923 he was promoted to A. R. A. clerk at Yard Center, Ill. After operating restaurants at Washington from 1925 until 1929, he was employed by the Pennsylvania in

HSGI

wear-resisting

PARTS



Long Mileage Parts

ANY material which gives longer service between renewals contributes to the all-out war-time effort of the railroads.

Wear-resisting parts made from HUNT-SPILLER *Air Furnace* GUN IRON are helping the railroads to obtain maximum revenue mileage from their locomotives.

Performance records from railroads using HSGI parts show unusual high mileage between replacements, increased efficiency and high availability. It stands to reason that the long mileage built into HSGI parts contributes greatly to the economy of locomotive operation.

HSGI

Reg. U.S. Trade Mark

Cylinder Bushings
Cylinder Packing Rings
Cylinder or Piston Bull Rings
Pistons or Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings

Finished Parts

Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above)
Sectional Snap Rings
Cylinder Rings All Shapes
Valve Rings All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

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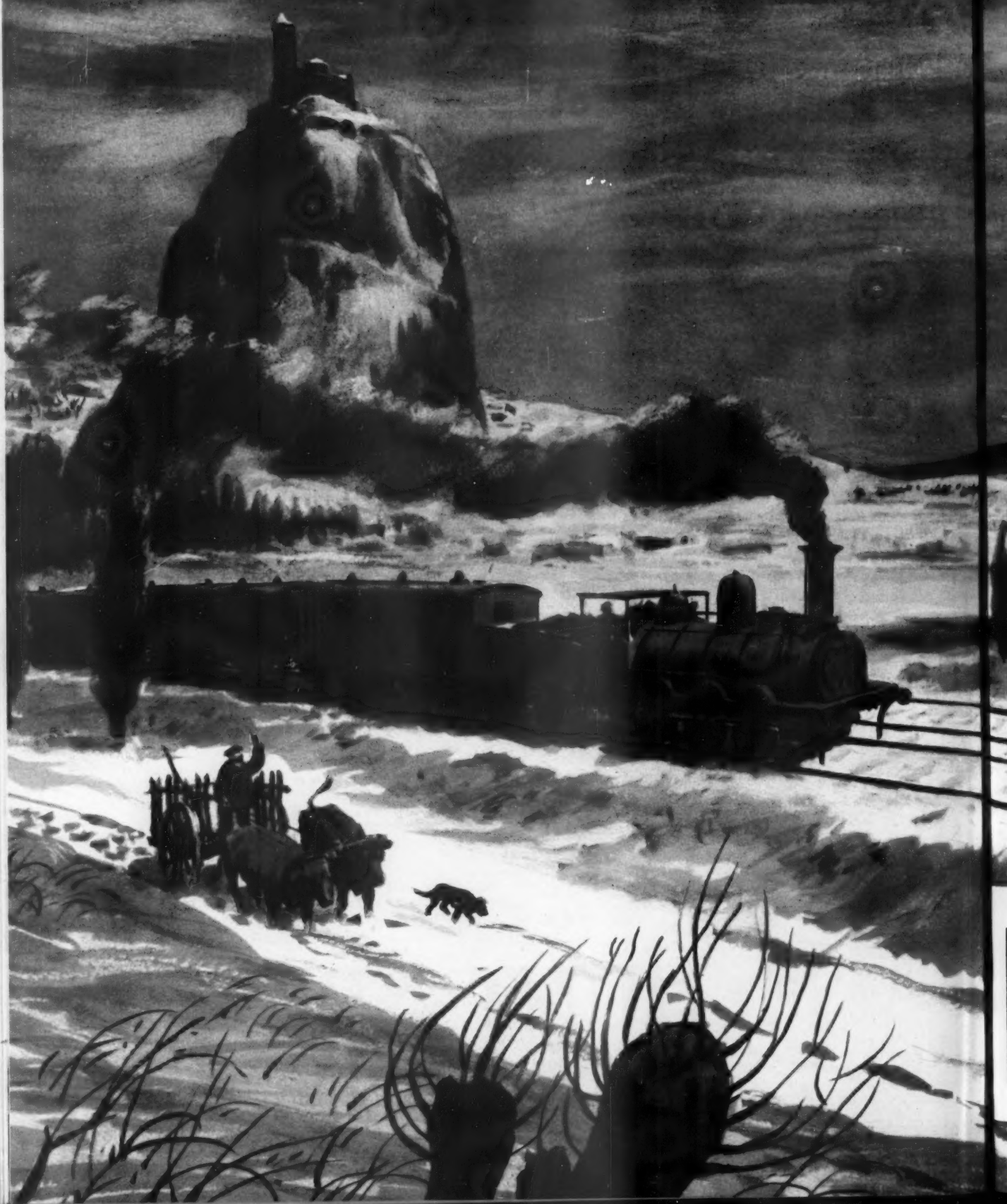
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HUNT-SPILLER GUN IRON

Air Furnace

1872



It started "globe-trotting" early— and has never stopped since

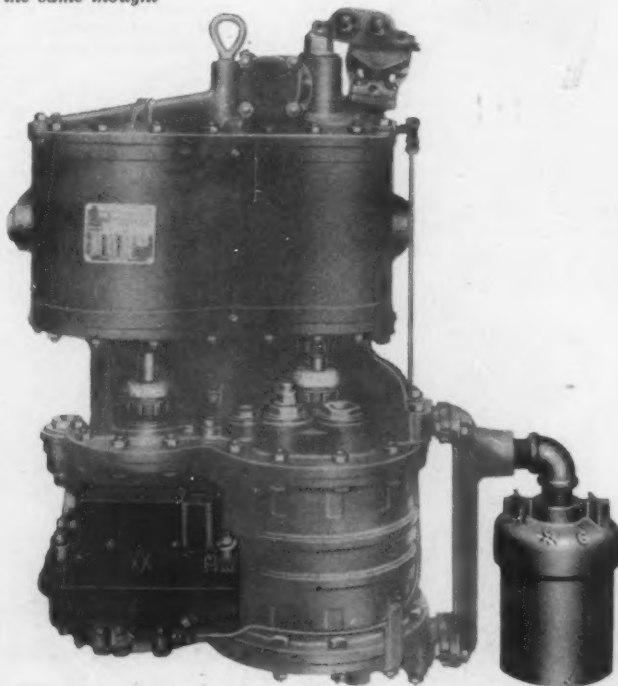
To the two million Americans who made the acquaintance of the French railway system during the first world war, passenger accommodations were definitely primitive, and were symbolized by the "40 Hommes—8 Chevaux" on the side of a box car.

This opinion is rather unjust, for France was a pioneer in guarding the safety and assuring the comfort of the traveling public, by installing the Westinghouse Air Brake. Less than five years after the brake was demonstrated in America, it was installed on the "Western" line, and within a short period was made standard equipment on all French passenger cars. Belgium and Mexico were other early users. Never in history was any invention more immediately accepted and universally applied, than the Westinghouse Air Brake. There is probably no country on the globe where it is not contributing to the speed and safety of transportation.

75 Years of Pioneering

WESTINGHOUSE AIR BRAKE COMPANY, WILMERDING, PA.

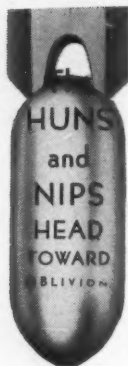
From the day when the first air brake was produced, progress and improvement have been watchwords. Auxiliary equipment has received the same thought and attention as the brake system. Examples are the "G" Filler and "F-2" Mechanical Lubricator, which do sentry-duty over the compressors, assuring consistently reliable performance, reducing maintenance, and increasing locomotive availability.



1869

1944

TO PERMIT TODAY'S TRAINS TO
MOVE AT SHORTER INTERVALS
WITH HEAVIER LOADS AT HIGHER
SPEEDS—SAFELY.



but



DAVENPORT LIGHTER DIESEL SWITCHERS *are coming into their own*

COMPLETE INFORMATION

will be sent gladly on request to any inquiring railroad executive.

The hard-won Peace will bring new opportunities—and a multitude of sobering problems. American character will continue to be under test as the need for post-war jobs and the maintenance of an adequate economy challenges our determination to make the dreamed-of Better World a reality.

We have willingly fought to win the war **AT ANY COST.** We must win the peace on the basis of intelligent conservation and utilization. We must be dynamic but sound.

Efficiency of operation—the most work done with the least waste—must again become a basic essential for industrial operation.

That's why we are firm in our belief that many more Davenport Lighter Diesel Switchers, 44-Ton Diesel-Electrics and 35-Ton Diesel Mechanicals will take the place of larger, over-powered steamers on many locations where the following characteristics combine to insure clear operating gains:

100% availability for one, two or three eight-hour shifts as desired • Higher power ratio at slow speeds • Quick acceleration and smoother, more sensitive response to controls • Exceptional visibility for safety and efficiency • Smoke-free, quiet operation • Independence from engine houses, coal docks, ash pits and water facilities • Quick return on investment through direct saving



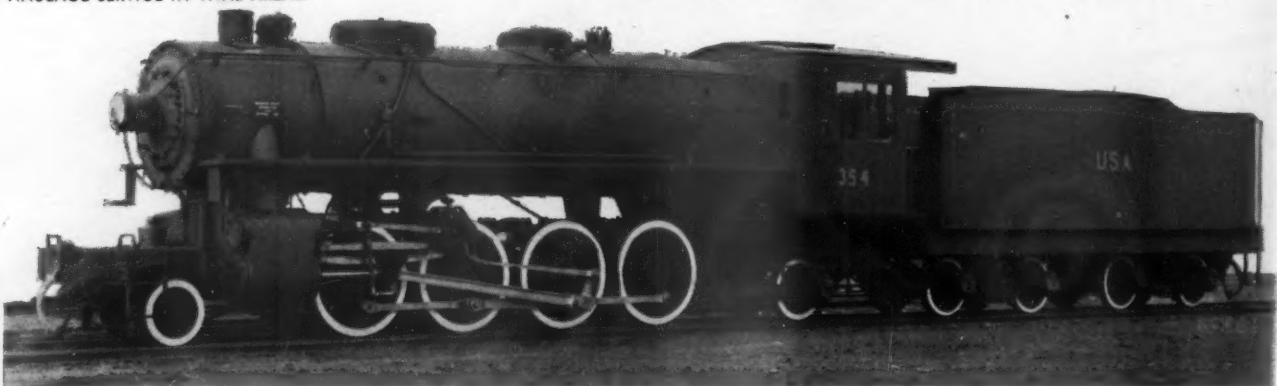
DAVENPORT LOCOMOTIVE WORKS

Pioneers of the Lighter Diesel Switcher

A DIVISION OF DAVENPORT BESLER CORPORATION

DAVENPORT, IOWA, U. S. A.

MAC ARTHUR STEAMERS, BUILT BY DAVENPORT, ARE DELIVERING INVALUABLE WAR HAULAGE SERVICE IN VITAL AREAS.



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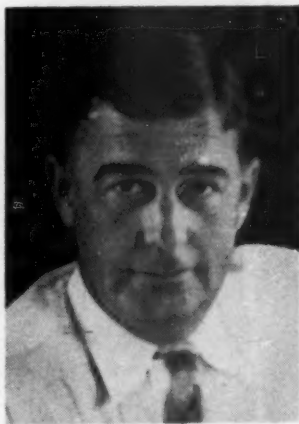
EXPORT OFFICE • BROWN & SITES • 50 CHURCH STREET, NEW YORK • CABLE ADDRESS "BROSITES"

1930 as dining car steward, later becoming relief dining car agent. In 1942 he was promoted to dining car agent at Washington, D. C. Mr. Cooke went with the Atlantic Coast Line as superintendent of dining cars in March, 1943, a post which he held until his present advancement to general superintendent of dining cars.

A. H. Fairfield has been appointed assistant to the general manager of the New York, New Haven & Hartford with headquarters at Grand Central Terminal, New York, effective August 1.

Robert A. Love, passenger transportation clerk of the Panhandle & Santa Fe (part of the Santa Fe System), has been promoted to car accountant, with headquarters as before at Amarillo, Tex., succeeding **K. J. Brown**, deceased.

Thomas LeRoy Nichols, whose appointment as general superintendent, transportation and mechanical departments, of the Atlanta & St. Andrews Bay, with head-



Thomas LeRoy Nichols

quarters at Dothen, Ala., was announced in the *Railway Age* of July 22, was born at Chester, S. C., on December 15, 1900. He attended Freeman College at Greenville, S. C., for one year, and entered railroad service in 1916 with the Chicago & North Western. After serving also on the Southern and the Norfolk & Western, Mr. Nichols joined the Atlanta & St. Andrews Bay in 1936, as shop foreman. On October 1, 1939, he was promoted to master mechanic, and on May 1, 1943, was again advanced to the post of superintendent of motive power. In this capacity he continued until his present appointment as general superintendent, transportation and mechanical departments.

C. C. Courtway, assistant trainmaster of the Missouri Pacific, with headquarters at Helena, Ark., has been promoted to trainmaster of the Memphis Division, with headquarters at Wynne, Ark., succeeding **B. Pratt**, who has been assigned to other duties.

A. R. Wilson has been appointed assistant superintendent of the Canadian National's Belleville division with headquarters at Lindsay, Ont. He succeeds **E. L. Welte**, who has been transferred to Belleville, Ont., to replace **C. I. Warren**, whose pro-

motion to superintendent of the Hornepayne division was announced in the *Railway Age* of July 8.

George A. Voelkner has resigned as general manager of the Toledo, Peoria & Western, with headquarters at Peoria, Ill., to become general superintendent of the Chicago & Western Indiana, and the Belt Railway of Chicago, with headquarters at Chicago, succeeding **W. L. Fox**, who has resigned to become vice-president of the Coach & Car Equipment Corp., Chicago, effective August 1. **Harlan H. Best**, superintendent of the Toledo, Peoria & Western, has been appointed general manager succeeding Mr. Voelkner.

FINANCIAL, LEGAL AND ACCOUNTING

Clyde E. Catt, assistant auditor of disbursements of the Baltimore & Ohio at Baltimore, Md., has been appointed auditor of disbursements with the same headquarters, succeeding **William R. Pitt**, who has retired from that post after 54 years of service. Mr. Catt, who was born in Pike County, Ind., on March 5, 1887, entered railroading with the Baltimore & Ohio on July 13, 1905, as a file clerk at Washington, Ind. After serving as stenographer and clerk he was named C. T. timekeeper at Seymour, Ind., on December 1, 1910. He then was successively chief clerk to division accountant, traveling timekeeper, and division accountant. On August 1, 1921, Mr. Catt became traveling auditor of disbursements for the system, being named chief clerk to the division accountant at Pittsburgh, Pa., the following year. He was appointed acting division accountant at Pittsburgh in April, 1923, becoming division accountant at Connellsville, Pa., one year later. From February, 1932, until May, 1938, he served as assistant division accountant and subsequently as division ac-



Clyde E. Catt

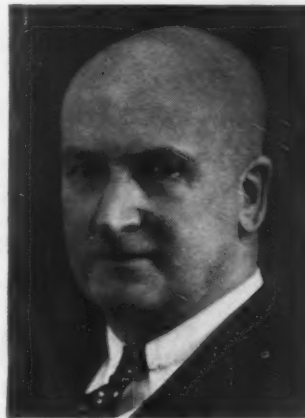
countant at Pittsburgh, and in 1938 was appointed assistant auditor of disbursements at Baltimore. He continued as such until his present promotion to auditor of disbursements.

Mr. Pitt, who was born at Howard County, Md., on June 4, 1874, entered railroad service on January 19, 1890, as a messenger in the stores department of the

B. & O. at Mt. Clare, Baltimore. He became clerk the following year and assistant storekeeper at the same location in 1893. In 1895 he was named stenographer, and in 1899, clerk in the motive power department at Baltimore. He became assistant chief clerk at Newark, Ohio, in 1901, being appointed shop clerk at Glenwood, Pa., in 1904. In 1907 he went to the Washington Terminal Company, returning to Baltimore in the capacity of inspector of accounts in 1912. Mr. Pitt was named assistant auditor of disbursements at Baltimore in 1936 and auditor of disbursements in 1938. The latter position he held until his recent retirement.

TRAFFIC

Albert A. Gardiner, assistant general passenger traffic manager of the Canadian National since 1930, has been promoted to the position of general passenger traffic manager. Born in Somersetshire, England, on December 22, 1886, Mr. Gardiner was educated for the Indian Civil Service but



Albert A. Gardiner

came to Canada, at the age of 20, and immediately entered the service of the Grand Trunk (now Canadian National), as a clerk. In 1910 he became chief clerk in the passenger department, and ten years later was named chief clerk in the office of the passenger traffic manager. In 1923 he entered the office of the executive assistant to vice-president, and in 1926 was advanced to general passenger agent. Mr. Gardiner became assistant general passenger traffic manager with headquarters at Montreal, Que., in 1930. This position he held until his recent appointment as general passenger traffic manager.

W. B. Wilson has been appointed general agent, freight department, of the New York Central, with headquarters at Tulsa, Okla.

H. W. Kassling, office supervisor of the freight traffic department, of the Missouri Pacific, with headquarters at St. Louis, Mo., has been promoted to assistant general freight agent, with headquarters at Houston, Tex.

J. H. Tate, traveling freight and passenger agent of the Southern Pacific, with headquarters at Birmingham, Ala., has been promoted to district freight and passenger

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...FROM COAST TO COAST

BALDWIN **Westinghouse** **DIESEL-ELECTRICS**

Baldwin-Westinghouse diesel-electric locomotives are working side by side with the thousands of Baldwin steam and electric locomotives serving the American railroads.

The high availability, efficiency and economy of Baldwin-Westinghouse diesel-electrics reflect the combined experience of these two pioneer companies.

Baldwin diesel engines, which power these locomotives, embody every worthwhile development in 4-cycle diesel engine practice. They provide maximum accessibility for easy inspection and maintenance under railroad operating conditions.

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BALDWIN SERVES



TRAFFIC

TO COAST

SERVES



BALDWIN

LOCOMOTIVES

BALDWIN PRODUCTS FOR THE RAILROADS—Steam, diesel-electric and electric locomotives, Diesel engines, Hydraulic presses, Special railroad shop equipment, Testing machines and instruments, Steel tires and rolled steel wheels, Crane wheels, Connecting rods and other steel forgings, Steel castings, Springs, Metal plate fabrication, Boilers, Non-ferrous castings, Bonding rolls, Plate planers, Dynamometer cars

THE NATION WHICH THE RAILROADS HELPED TO BUILD

agent, with headquarters at Galveston, Tex., succeeding **H. C. Franks**, who has retired after 33 years service.

George A. Rodriguez, whose promotion to assistant freight traffic manager of the Missouri Pacific, with headquarters at St. Louis, Mo., was reported in the *Rail-*



Geo. A. Rodriguez

way Age of July 29, was born at Tampa, Fla., on October 2, 1901, and entered railway service with the Florida East Coast as a clerk of the cashier's office at St. Augustine, Fla., in July, 1920. He held several minor clerical positions until January 1, 1924, when he went with the Southern as a commercial agent, with headquarters at Havana, Cuba. On September 16, 1928, he went with the Missouri Pacific as a general agent, with headquarters at Havana, and on January 1, 1938, he was promoted to foreign freight agent, with headquarters at St. Louis. On August 1, 1940, Mr. Rodriguez was advanced to foreign freight traffic manager, with the same headquarters, the position he held at the time of his new appointment.

Joseph L. Sheppard, whose promotion to general traffic manager of the Illinois Central, with headquarters at Chicago, was reported in the *Railway Age* of July 29,



Joseph L. Sheppard

was born at Greenville, S. C., on June 11, 1881, and entered railway service on July 1, 1896, on the Illinois Central as a messenger in the office of the assistant general freight agent at Memphis, Tenn. He was later promoted through various clerical

positions in that office, the local agent's office, the commercial office and the general freight office. On March 1, 1910, he was advanced to chief clerk in the latter office and three years later he was promoted to assistant general freight agent at Memphis. Mr. Sheppard was further advanced to general freight agent on June 2, 1926, and on February 20, 1932, he was transferred to Chicago. He was promoted to assistant traffic manager at St. Louis, Mo., on February 1, 1935, and in April, 1939, he was advanced to freight traffic manager in charge of rate matters, the position he held at the time of his new appointment.

Robert A. Trovillion, whose promotion to freight traffic manager in charge of rate matters of the Illinois Central, with headquarters at Chicago, was reported in the *Railway Age* of July 29, was born at Golconda, Ill., on August 26, 1887, and entered railway service as a stenographer in the office of the assistant general freight agent of the Illinois Central at St. Louis on December 10, 1906. He served in various capacities until February 15, 1916, when he was transferred to Chicago as assistant chief clerk in the general freight depart-



Robert A. Trovillion

ment. On January 16, 1918, he obtained a leave of absence to join the U. S. Army, and after the war he returned to the Illinois Central as chief clerk in the general freight department at Chicago. Mr. Trovillion was promoted to assistant general freight agent on May 19, 1925, and on February 1, 1935, he was further advanced to general freight agent. In April, 1939, he was promoted to assistant freight traffic manager, with headquarters at Chicago, the position he held at the time of his new appointment.

Ashleigh P. Boles, assistant general livestock agent of the Missouri Pacific, with headquarters at Kansas City, Mo., has been promoted to agricultural agent, with headquarters at St. Louis, Mo.

Leon G. Godchaux, assistant to the freight traffic manager of the Illinois Central, with headquarters at Chicago, has been promoted to general freight agent, with the same headquarters.

R. A. Gordon, express traffic supervisor for Nova Scotia of the Canadian National, has been appointed assistant superin-

tendent in the express department of the road's Atlantic division, with headquarters at Moncton, N. B.

John J. Mulrooney, district passenger agent of the Chesapeake & Ohio, with headquarters at Cleveland, Ohio, has been advanced to special representative of the passenger department, with the same headquarters. **William W. Abenroth**, passenger service agent at Cleveland, has been promoted to district passenger agent, succeeding Mr. Mulrooney.

ENGINEERING & SIGNALING

L. R. Thomas, telegraph engineer of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, has been promoted to electronics engineer, with the same headquarters. **C. A. Crouch**, telephone engineer, with headquarters at Topeka, Kan., has been advanced to telegraph engineer, with headquarters at Chicago, succeeding Mr. Thomas, and **E. L. Kenyon**, telephone and telegraph supervisor at Topeka, has been promoted to telephone engineer, with the same headquarters, replacing Mr. Crouch.

W. P. Geiser, supervisor of track on the Pennsylvania, with headquarters at Olean, N. Y., has resigned to become assistant chief engineer of the Pittsburgh & Shawmut, with headquarters at Kittanning, Pa., and Brookville, effective July 1. Mr. Geiser obtained his higher education at the University of Pittsburgh, graduating in 1925 with the degree of Civil Engineer. Early in his career Mr. Geiser served for a year with the U. S. Army Engineers in the canalization of the Allegheny river. He had been with the Pennsylvania since 1926, serving as rodman, assistant supervisor of track and supervisor

SPECIAL

Paul Scarborough, Jr., has been named to the position of special representative of the Seaboard Air Line, with duties in the field of public relations extending over the entire system. Mr. Scarborough's headquarters will be at Norfolk, Va.

OBITUARY

Ogden Pierce, superintendent of the Clover Leaf district of the New York, Chicago & St. Louis, with headquarters at Frankfort, Ind., died in a hospital in that city on June 17. Mr. Pierce was born at Ft. Wayne, Ind., on May 15, 1876, and entered railway service as a brakeman of the Pennsylvania. In 1895 he went with the Nickel Plate as a brakeman, later serving as a conductor until 1907 when he was promoted to general yardmaster, with headquarters at Chicago. In 1913 Mr. Pierce was advanced to trainmaster of the Chicago division, with the same headquarters, and four years later he was promoted to superintendent of that division. At the end of World War I he was appointed trainmaster of the Chicago division, and in 1923 he was advanced to superintendent of the Ft. Wayne division, with headquarters at Ft. Wayne. On January 1, 1932, Mr. Pierce was transferred to the Clover Leaf division, remaining in that location up to the time of his death.

Just in case you've eased up...
ON YOUR PAY ROLL PLAN



Pause one brief moment. Compare your lot—and that of the men and women in your employ—with the lot of the infantrymen who meet the enemy face to face, who do the hardest fighting, who suffer the most casualties.

Let the full impact of war's unending grimness swiftly convert any tendency toward complacency into revitalized urgency. Remember—the war is not yet won.

As top management and labor, you've been entrusted with two major responsibilities—steadily maintained production, and steadily maintained War Bond Sales through your Pay Roll Savings Plan.

Decide now to revitalize your plant's Pay Roll Plan. Have your Bond Committee recheck all employee lists for percentages of participation and individual deductions. Have Team Captains personally contact each old and new employee. Raise all percentage figures wherever possible.

Don't underestimate the importance of this task. This marginal group represents a potential sales increase of 25% to 30% on all Pay Roll Plans!

Your success will be twofold: A new high in War Bond Sales; and a new high in production. Because a worker with a systematic savings plan has his mind on his work—not on post-war financial worries. He's taking care of the future now. His own. And his Country's future. Help him! REVITALIZE YOUR WAR BOND PAY ROLL SAVINGS PLAN.



Official U. S. Coast Guard Photo: The elevator to a Coast Guard-operated transport hospital



Back the Attack!
SELL MORE THAN BEFORE!

The Treasury Department acknowledges with appreciation the publication of this message by

RAILWAY AGE

This is an official U. S. Treasury advertisement—prepared under the auspices of Treasury Department and War Advertising Council.

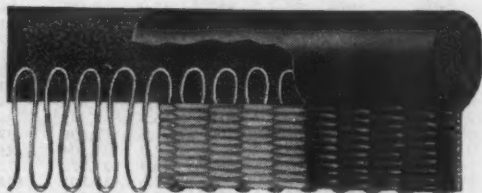
Freight Operating Statistics of Large Steam Railways—Selected

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles		Car-miles		Ton-miles (thousands)		Road locos. on line					
			Principal and helper	Light	Loaded (thous.)	Per cent loaded	Gross excl. locos. & tenders	Net rev. and non-rev.	Serviceable		B. O.	Per cent B. O.		
									Unstored	Stored				
New England Region:														
Boston & Albany	1944	362	170,921	202,493	36,159	4,208	61.3	283,561	118,098	73	..	21	22.3	
.....	1943	362	171,780	207,816	30,547	4,321	62.6	290,613	124,806	75	1	18	19.1	
Boston & Maine	1944	1,807	399,372	452,248	43,692	14,431	67.6	938,181	423,908	155	..	20	11.4	
.....	1943	1,812	397,674	469,614	37,359	13,673	65.5	916,529	417,364	150	..	30	16.7	
N. Y., New H. & Hartf.	1944	1,815	542,382	679,809	59,874	20,190	66.6	1,269,754	557,070	231	2	30	14.7	
.....	1943	1,815	528,169	667,535	60,518	19,002	66.0	1,213,336	537,179	213	5	41	17.9	
Great Lakes Region:														
Delaware & Hudson	1944	846	339,896	412,663	40,971	14,318	67.1	1,018,047	537,822	134	41	39	18.2	
.....	1943	848	341,278	414,268	37,945	13,421	66.4	969,695	513,770	150	45	39	16.7	
Del., Lack. & Western	1944	971	391,517	468,607	75,975	17,270	69.1	1,142,368	545,321	142	29	28	14.1	
.....	1943	972	418,695	515,649	108,547	19,259	64.6	1,317,256	610,971	165	3	34	16.8	
Erie	1944	2,244	1,005,367	1,081,117	74,615	46,728	66.1	3,074,211	1,358,289	331	14	56	14.0	
.....	1943	2,242	1,087,880	1,172,913	87,041	49,799	65.7	3,272,095	1,478,965	318	5	77	19.3	
Grand Trunk Western	1944	1,026	286,661	293,282	2,475	9,240	64.0	608,992	259,205	66	..	12	15.4	
.....	1943	1,026	305,485	309,908	2,410	9,008	60.0	631,554	272,486	71	2	12	14.1	
Lehigh Valley	1944	1,247	655,888	727,007	109,749	27,267	59.2	2,007,807	949,846	153	..	14	8.4	
.....	1943	1,248	491,036	556,159	85,269	20,739	60.5	1,502,068	713,727	140	..	17	10.8	
New York Central	1944	10,325	3,801,612	4,100,008	258,156	143,242	61.2	10,164,515	4,724,518	1,164	9	240	17.0	
.....	1943	10,365	3,983,689	4,333,040	273,834	149,820	60.5	10,840,622	5,009,330	1,204	9	202	14.3	
New York, Chi. & St. L.	1944	1,657	825,341	833,777	10,308	32,770	66.0	2,166,896	975,001	168	..	17	9.2	
.....	1943	1,657	849,590	864,987	12,312	32,029	64.7	2,152,926	979,739	168	..	19	10.2	
Pere Marquette	1944	1,945	467,478	485,408	13,001	15,984	66.4	1,082,564	515,195	142	1	26	15.4	
.....	1943	1,975	462,558	482,420	12,311	14,455	65.1	995,877	471,181	137	2	23	14.2	
Pitts. & Lake Erie	1944	229	98,017	103,541	178	4,374	66.0	376,181	225,774	32	..	13	28.9	
.....	1943	231	94,532	98,597	564	4,355	68.2	373,782	228,953	37	..	12	24.5	
Wabash	1944	2,381	762,082	785,760	18,929	27,567	68.9	1,783,654	797,495	170	9	42	19.0	
.....	1943	2,381	756,555	779,912	16,886	27,971	69.1	1,826,660	838,791	183	7	34	15.2	
Central Eastern Region:														
Baltimore & Ohio	1944	6,121	2,639,708	3,281,610	337,579	90,904	63.4	6,662,639	3,327,982	922	1	211	18.6	
.....	1943	6,116	2,551,299	3,165,026	358,327	85,618	61.7	6,317,527	3,096,541	929	3	198	17.5	
Central of New Jersey	1944	655	248,183	291,589	68,336	8,951	60.0	672,510	337,222	131	12	15	9.5	
.....	1943	657	287,238	327,431	60,137	9,014	63.7	652,398	338,137	135	2	16	10.5	
Chicago & Eastern Ill.	1944	912	333,132	343,887	12,075	10,303	58.7	745,514	334,603	82	..	5	5.7	
.....	1943	912	315,697	328,811	9,687	9,167	57.0	669,286	293,596	77	..	8	9.4	
Elgin, Joliet & Eastern	1944	392	140,457	144,410	4,056	3,834	65.5	301,900	164,778	65	..	11	14.5	
.....	1943	392	142,269	145,708	2,840	3,784	65.3	299,241	164,209	68	..	8	10.5	
Long Island	1944	372	37,543	39,154	16,041	412	56.9	30,824	13,556	45	..	6	11.8	
.....	1943	374	36,922	38,584	17,132	380	55.2	30,560	14,032	44	..	4	8.3	
Pennsylvania System	1944	9,881	4,965,220	5,789,916	761,208	192,569	62.6	14,053,904	6,883,351	1,991	1	217	9.8	
.....	1943	9,940	5,060,413	5,926,773	825,258	190,057	60.4	14,109,652	6,804,046	1,966	..	187	8.7	
Reading	1944	1,409	592,232	670,057	84,151	19,545	65.3	1,470,790	796,394	277	11	49	14.5	
.....	1943	1,417	613,291	688,621	91,044	20,242	62.7	1,534,347	820,469	277	11	40	12.2	
Pocahontas Region:														
Chesapeake & Ohio	1944	3,032	1,140,308	1,224,333	60,338	54,097	58.1	4,679,364	2,701,656	408	..	94	18.7	
.....	1943	3,031	1,095,645	1,176,852	58,919	50,414	56.9	4,390,135	2,502,202	431	1	77	15.1	
Norfolk & Western	1944	2,132	803,502	856,360	60,226	37,553	59.7	3,244,601	1,775,217	295	23	20	5.9	
.....	1943	2,134	841,684	912,435	64,515	36,670	56.5	3,284,632	1,792,241	321	16	11	3.2	
Southern Region:														
Atlantic Coast Line	1944	4,953	1,099,920	1,124,089	15,846	29,805	64.1	1,997,663	894,498	364	7	29	7.3	
.....	1943	4,951	1,141,221	1,171,398	16,831	31,387	61.3	2,131,990	921,219	365	..	29	7.4	
Central of Georgia	1944	1,783	368,341	378,875	6,148	8,666	68.3	574,984	266,121	96	..	8	7.7	
.....	1943	1,783	353,678	365,229	6,328	8,320	71.7	545,331	256,209	109	..	7	6.0	
Gulf, Mobile & Ohio	1944	1,962	324,881	412,969	2,830	11,595	72.0	763,918	372,712	113	..	8	6.6	
.....	1943	1,962	387,230	479,278	2,460	12,963	67.6	837,319	407,306	118	..	5	4.1	
Illinois Central (incl. Yazoo & Miss. Vy.)	1944	6,347	1,880,168	1,899,117	34,855	70,948	60.7	5,037,528	2,290,020	661	..	38	5.4	
.....	1943	6,349	1,974,104	1,999,539	37,633	74,751	61.1	5,371,571	2,495,086	608	..	81	11.8	
Louisville & Nashville	1944	4,736	1,693,512	1,832,739	45,478	43,889	64.0	3,180,311	1,592,866	426	7	60	12.2	
.....	1943	4,736	1,728,473	1,894,905	47,970	42,995	60.7	3,203,739	1,557,264	447	1	44	8.9	
Seaboard Air Line*	1944	4,161	1,003,312	1,234,250	15,369	27,897	66.2	1,862,382	814,462	323	..	43	11.7	
.....	1943	4,166	1,036,614	1,174,162	10,719	27,675	65.4	1,883,109	821,036	286	..	49	14.6	
Southern	1944	6,479	2,295,571	2,344,347	35,904	51,234	68.6	3,336,060	1,557,440	610	..	80	11.6	
.....	1943	6,478	2,307,317	2,358,257	32,303	49,789	67.3	3,295,914	1,529,234	606	..	72	10.6	
Northwestern Region:														
Chi. & North Western	1944	8,074	1,051,471	1,095,123	18,476	34,330	67.6	2,320,416	1,064,230	378	15	98	20.0	
.....	1943	8,098	1,037,153	1,081,790	21,956	32,786	65.4	2,280,044	1,065,545	388	39	73	14.6	
Chicago Great Western	1944	1,445	290,553	298,009	10,811	9,500	73.2	609,401	282,085	73	..	9	11.0	
.....	1943	1,445	292,490	300,134	6,315	8,807	66.7	604,710	271,374	76	..	5	6.2	
Chi., Milw., St. P. & Pac.	1944	10,715	1,561,537	1,665,157	71,903	53,526	70.5	3,565,005	1,746,039	504	44	65	10.6	
.....	1943	10,757	1,570,096	1,674,737	67,822	51,185	67.7	3,473,214	1,652,998	502	42	69	11.3	
Chi., St. P., Minneap. & Om.	1944	1,606	208,451	221,767	11,709	5,448	68.7	371,756	176,123	101	23	10	7.5	
.....	1943	1,614	197,359	207,625	10,683	5,119	66.9	350,604	159,384	92	33	4	6.0	
Duluth, Missabe & I. R.	1944	545	175,942	176,635	1,203	9,524	50.7	884,536	541,415	55	..	1	1.8	
.....	1943	546	155,691	156,369	1,018	8,294	51.1	762,210	465,222	53	5	5	7.9	
Great Northern	1944	8,276	1,221,439	1,215,635	51,468	48,753	70.6	3,459,520	1,814,263	396	15	51	17.0	
.....	1943	8,022	1,161,830	1,210,840	39,656	46,857	69.7	3,397,983	1,778,877	374	19	64	14.0	
Min., St. P. & S. St. M.	1944	4,258	504,368	515,882	7,591	14,070	67.5	984,945	493,161	134	1	5	3.6	
.....	1943	4,258	419,957	427,022	5,951	11,024	66.1	761,652	367,304	129	3	6	4.3	
Northern Pacific	1944	6,571	940,209	1,008,301	75,611	40,061	76.9	2,640,751	1,399,177	364	19	55	12.6	
.....	1943	6,572	958,590	1,023,727	77,144	38,297	73.9.							

Items for the Month of May 1944 Compared with May 1943

Region, road, and year	Freight cars on line			Per Cent B. O.	G.t.m. per train-hr. excl. locos. and tenders	G.t.m. per train-mi. excl. locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day
	Home	Foreign	Total										
New England Region:													
Boston & Albany	1944 372	6,168	6,540	0.4	26,415	1,664	693	28.1	630	36.6	10,524	180	90.3
1943 364	5,226	5,590	1.1	26,465	1,701	730	28.9	703	38.9	11,122	161	89.2	
Boston & Maine	1944 2,427	12,373	14,800	1.9	37,704	2,356	1,064	29.4	989	49.8	7,567	96	95.7
1943 2,458	9,783	12,241	2.5	35,876	2,312	1,053	30.5	1,154	57.7	7,430	95	97.8	
N. Y., New H. & Hartf.†	1944 3,201	20,374	23,575	2.5	35,702	2,378	1,043	27.6	746	40.6	9,901	95	95.3
1943 4,136	20,958	25,094	2.3	34,368	2,337	1,035	28.3	712	38.1	9,547	95	93.3	
Great Lakes Region:													
Delaware & Hudson	1944 3,826	5,340	9,166	2.7	50,743	3,010	1,590	37.6	1,770	70.2	20,507	103	71.3
1943 4,330	5,000	9,330	3.6	47,469	2,854	1,512	38.3	1,765	69.4	19,544	103	67.7	
Del., Lack. & Western	1944 5,838	12,665	18,503	2.7	43,905	2,944	1,406	31.6	935	42.9	18,116	111	95.1
1943 6,978	13,087	20,065	2.4	43,201	3,250	1,507	31.7	1,001	48.9	20,276	120	108.1	
Erie	1944 10,766	26,024	36,790	3.1	51,146	3,072	1,357	29.1	1,151	59.9	19,526	89	100.7
1943 11,472	25,347	36,819	2.5	51,693	3,022	1,366	29.7	1,297	66.5	21,279	91	108.5	
Grand Trunk Western	1944 3,718	6,579	10,297	4.8	43,237	2,145	913	28.1	893	49.8	8,150	83	128.9
1943 2,604	7,582	10,186	3.1	43,299	2,078	897	30.2	857	47.2	8,567	86	126.8	
Lehigh Valley	1944 6,864	23,968	30,832	2.4	50,703	3,191	1,509	34.8	1,002	48.6	24,571	101	138.4
1943 6,968	16,323	23,291	1.8	52,211	3,146	1,495	34.4	932	44.8	18,448	103	110.0	
New York Central	1944 46,728	97,031	143,759	3.6	44,195	2,705	1,257	33.0	1,042	51.7	14,761	95	115.8
1943 52,662	95,297	147,959	2.9	44,052	2,760	1,276	33.4	1,101	54.5	15,590	81	154.7	
New York, Chi. & St. L.	1944 2,959	13,458	16,417	2.7	50,988	2,641	1,188	29.8	1,865	95.0	18,981	84	159.1
1943 3,812	13,548	17,360	2.0	47,309	2,543	1,157	30.6	1,821	91.9	19,073	84	101.7	
Pere Marquette	1944 2,915	8,798	11,713	2.6	40,873	2,369	1,127	32.2	1,419	66.3	7,696	87	104.5
1943 3,811	7,770	11,581	3.2	38,291	2,190	1,036	32.6	1,300	61.3	31,804	85	84.6	
Pitts. & Lake Erie	1944 3,595	8,677	12,272	3.8	54,354	3,842	2,306	51.6	579	17.0	31,972	77	71.9
1943 3,992	7,925	11,917	3.6	53,344	3,962	2,427	52.6	589	16.4	31,972	101	121.8	
Wabash	1944 7,219	13,635	20,854	2.3	45,259	2,365	1,058	28.9	1,228	61.6	10,805	102	118.9
1943 7,583	14,059	21,642	1.1	46,108	2,434	1,118	30.0	1,279	61.7	11,364	102	118.9	
Central Eastern Region:													
Baltimore & Ohio	1944 41,529	61,412	102,941	2.8	32,033	2,591	1,294	36.6	1,075	46.3	17,539	136	106.3
1943 42,373	52,000	94,373	2.5	32,261	2,529	1,239	36.2	1,050	47.1	16,332	137	105.5	
Central of New Jersey†	1944 5,346	16,333	21,679	2.3	33,427	2,724	1,366	37.7	506	22.4	16,608	125	99.7
1943 5,480	21,473	26,953	1.1	28,875	2,306	1,195	37.5	396	16.6	16,602	143	106.9	
Chicago & Eastern Ill.	1944 2,296	4,951	7,247	3.7	37,982	2,284	1,025	32.5	1,376	72.2	11,835	113	135.0
1943 2,082	5,708	7,790	3.1	34,551	2,184	958	32.0	1,142	62.5	10,385	120	132.3	
Elgin, Joliet & Eastern	1944 8,565	6,452	15,017	2.8	18,025	2,292	1,251	43.0	358	12.7	13,560	130	90.5
1943 9,266	6,978	16,244	3.7	17,807	2,244	1,231	43.4	328	11.6	13,513	115	91.3	
Long Island	1944 36	5,011	5,047	.4	6,739	837	368	32.9	89	4.8	1,176	296	48.7
1943 13	4,112	4,125	.4	6,902	940	386	36.9	113	5.6	1,210	288	51.6	
Pennsylvania System	1944 121,033	130,487	251,520	3.5	39,866	2,920	1,430	35.7	882	39.4	22,472	123	103.6
1943 131,865	110,396	242,261	2.9	38,525	2,876	1,387	35.8	912	42.1	22,081	115	108.9	
Reading	1944 13,028	20,918	33,946	1.9	31,348	2,488	1,346	40.7	744	28.0	18,233	117	83.3
1943 11,642	24,559	36,201	1.9	31,594	2,509	1,342	40.5	708	27.9	18,678	117	86.8	
Pocahontas Region:													
Chesapeake & Ohio	1944 39,714	18,146	57,860	1.1	59,203	4,156	2,399	49.9	1,510	52.1	28,743	71	89.8
1943 34,136	16,311	50,447	1.5	58,107	4,067	2,318	49.6	1,591	56.3	26,630	70	85.7	
Norfolk & Western	1944 28,577	7,723	36,300	3.0	64,628	2,247	2,247	47.3	1,482	52.5	26,860	83	94.8
1943 31,456	7,006	38,462	2.3	61,845	3,977	2,170	48.9	1,466	53.0	27,092	87	98.7	
Southern Region:													
Atlantic Coast Line	1944 8,056	19,898	27,954	2.7	30,938	1,825	817	30.0	996	51.8	5,826	106	95.8
1943 9,742	21,271	31,013	3.0	31,148	1,877	811	29.4	952	52.9	6,002	102	102.8	
Central of Georgia†	1944 2,163	7,008	9,171	1.4	30,165	1,577	730	30.7	964	46.0	4,815	123	125.9
1943 2,820	6,093	8,913	1.1	28,895	1,565	735	30.8	930	42.1	4,635	117	111.5	
Gulf, Mobile & Ohio	1944 2,071	7,794	9,865	.9	39,438	2,357	1,150	32.1	1,223	52.9	6,128	109	115.6
1943 2,773	7,448	10,221	.8	38,838	2,176	1,059	33.2	1,334	59.4	6,697	111	130.7	
Illinois Central (incl. Yazoo & Miss. Vv.)	1944 18,479	34,633	53,112	1.0	44,623	2,745	1,248	32.3	1,365	69.7	11,639	112	92.6
1943 19,716	34,955	54,671	.8	43,675	2,797	1,299	33.4	1,549	75.9	12,677	106	100.0	
Louisville & Nashville	1944 13,013	15,658	28,671	3.4	29,683	1,878	941	36.3	1,074	46.3	10,849	124	129.7
1943 30,885	20,530	51,415	2.0	28,171	1,854	901	36.2	1,036	47.2	10,607	115	134.5	
Seaboard Air Line*	1944 6,729	17,777	24,506	1.8	32,300	1,893	828	29.2	1,061	54.9	6,314	127	118.9
1943 7,960	18,039	25,999	1.6	30,075	1,866	813	29.7	1,003	51.6	6,357	114	123.8	
Southern	1944 16,888	33,075	49,963	1.9	25,255	1,471	687	30.4	1,000	48.0	7,754	142	117.5
1943 16,989	28,377	45,366	1.9	25,532	1,451	673	30.7	1,074	52.0	7,615	137	119.4	
Northwestern Region:													
Chi. & North Western†	1944 22,602	29,779	52,381	3.5	35,115	2,271	1,042	31.0	681	32.5	4,252	117	77.5
1943 22,873	25,138	48,011	3.8	34,876	2,268	1,060	32.5	689	32.4	4,245	118	76.7	
Chicago Great Western	1944 1,124	4,263	5,387	1.6	35,801	2,112	978	29.7	1,741	80.1	6,297	121	129.9
1943 1,466	3,707	5,173	2.0	37,392	2,073	930	30.8	1,606	78.1	6,058	119	130.0	
Chi., Milw., St. P. & Pac.†	1944 26,563	30,264	56,827	1.5	36,984	2,302	1,128	32.6	1,006	43.8	5,257	115	97.6
1943 28,677	24,239	52,916	1.3	36,050	2,226	1,059	32.3	1,007	46.1	4,957	119	98.5	
Chi., St. P., Minneap. & Om.	1944 914	6,522	7,436	6.2	26,197	1,818	861	32.3	774	34.9	3,538	111	60.0
1943 1,152	6,069	7,221	9.0	25,627	1,794	815	31.1	687	33.0	3,185	111	55.1	
Duluth, Missabe & I. R.	1944 15,148	276	15,424	2.8	89,383	5,176	3,168	56.8	1,128	39.2	32,046	55	117.4
1943 14,626	312	14,938	1.9	84,297	5,021	3,065	56.1	1,005	35.1	27,486	58	91.7	
Great Northern	1944 26,017	20,587	46,604	1.7	44,658	2,846	1,493	37.2	1,209	46.0	7,072	90	93.1
1943 28,844	17,662	46,506	2.2	46,781	2,941	1,540	38.0	1,202	45.4	7,153	87	89.6	
Min., St. P. & S. St. M.†	1944 7,050	6,185	13,235	2.9	34,883	1,980	992	35.1	1,169	49.5	3,735	86	122.4
1943 8,249	4,887	13,136	4.1	32,360	1,828	881	33.3	896	40.7	2,783	90	102.3	
Northern Pacific	1944 17,847	15,379	33,226	3.7	44,525	2,823	1,496	34.9	1,315	49.0	6,869	122	86.5
1943 12,872	12,597	25,469	3.0	42,872	2,702	1,381	34.3	1,187	47.3	6,455	128	86.1	
Central Western Region:													
Alton†	1944 1,365	6,382	7,747	2.8	40,138	1,864	1,053	36.9	966	37.0	8,087	119	102.0
1943 1,131	6,953	8,084	2.7	39,887	1,906	845	29.8	944	45.5	8,257	123	128.8	
Atch., Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.)	1944 46,830	44,503	91,333	3.2	44,208	2,404	956	26.6	1,120	65.6	7,734	109	129.3
1943 53,873	43,804	97,677	3.1	39,493	2,304	925	27.5	969	55.2	7,151	115	136.0	
Chi., Burl. & Quincy	1944 16,669	25,740	42,409	2.9	41,622	2,617	1,272	33.6	1,437	63.0	6,900	106	99.3
1943 17,022	23,717	40,739	2.1	39,537	2,438	1,162	33.0	1,295	58.6	5,856	102	92.9	

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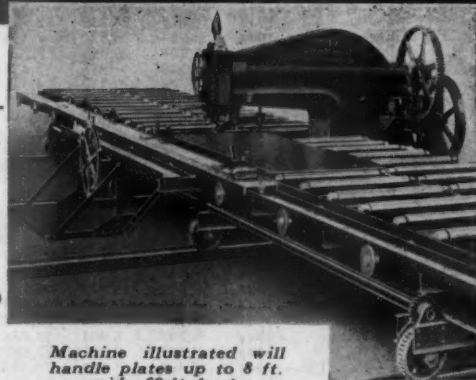
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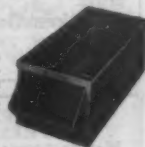


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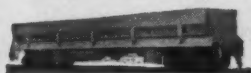
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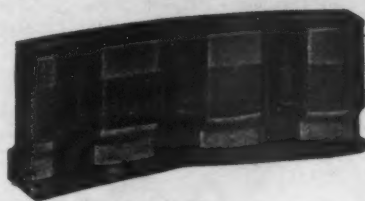
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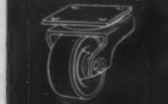
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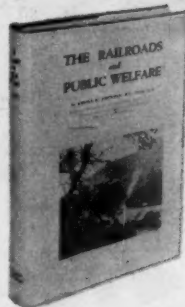
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Index to Advertisers

August 5, 1944

A	
Aluminum Company of America	13
American Arch Company, Inc.	45
American Car and Foundry Company	12, 13
American Locomotive Company	24, 25
American Steel Foundries	31
Association of American Railroads	26
Association of Manufacturers of Chilled Car Wheels.....	2
B	
Baldwin Locomotive Works, The	50a, 50b
Blaw-Knox Division of Blaw-Knox Company	21
Bridgeport Fabrics, Inc.	52
Buda Co., The	35
Budd Manufacturing Co., Edward G.	32
C	
Canadian Cardwell Co., Ltd.	16
Cardwell Westinghouse Co.	16
Carey Co., Inc., Thomas F.	54
Consolidated Steel Corp.	10
Corning Glass Works	34
D	
Davenport Locomotive Works, a division of Davenport Besler Corporation.	50
Detroit, Toledo and Ironton Railroad Co.	54
Differential Steel Car Co.	55
E	
Electro Motive Division, General Motors Corporation..	46a, 46b
F	
Fairbanks, Morse & Co.	4, 5
Firestone Co.	17
Franklin Railway Supply Co., Inc.	44
G	
General Cable Corporation	6, 7
General Electric Company	24, 25
General Steel Castings Corp.	33
Get Together Department	54
Gustin-Bacon Manufacturing Company	23
H	
Harbison-Walker Refractories Co.	45
Holland Company	11
Hunt-Spiller Mfg. Corporation	47
I	
International Correspondence Schools	54
Iron & Steel Products, Inc.	54
J	
Johns-Manville	22
L	
Lima Locomotive Works, Inc.	43
Lyon Metal Products Incorporated	53
M	
Magnus Metal Corporation	14
Miner, Inc., W. H.	3
Monroe Auto Equipment Co.	8, 9
Mt. Vernon Car Manufacturing Co., Division of H. K. Porter Co., Inc.	Front Cover
N	
National Malleable and Steel Castings Co.	20
O	
Ohio Locomotive Crane Co., The	55
Okonite Company, The	52
Oliver Iron and Steel Co.	27
P	
Philco Corporation	36
Porter Co., Inc., H. K.	Front Cover
Presstite Engineering Company	37
R	
Railway Accessories Co.	60
Railway Educational Bureau, The	54
Republic Steel Corporation	38
Reynolds Metals Co., Railway Supply Division	18, 19
S	
Schaefer Equipment Company	61
Simmons-Boardman Publishing Corp.	55
Socony-Vacuum Oil Co., Inc.	28, 29
Sonken-Galamba Corp.	54
Standard Railway Equipment Mfg. Company	42
Streeter-Amet Co.	53
Superheater Co., The	46
T	
Thomas Machine Manufacturing Company	52
Thomas Truck and Caster Co.	55
Timken Roller Bearing Co., The	Back Cover
U	
Union Switch & Signal Company	40
W	
Westinghouse Air Brake Co.	48, 49
Wheel Truing Brake Shoe Company	55

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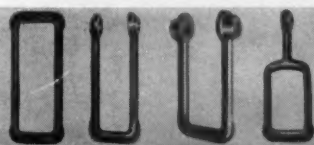
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